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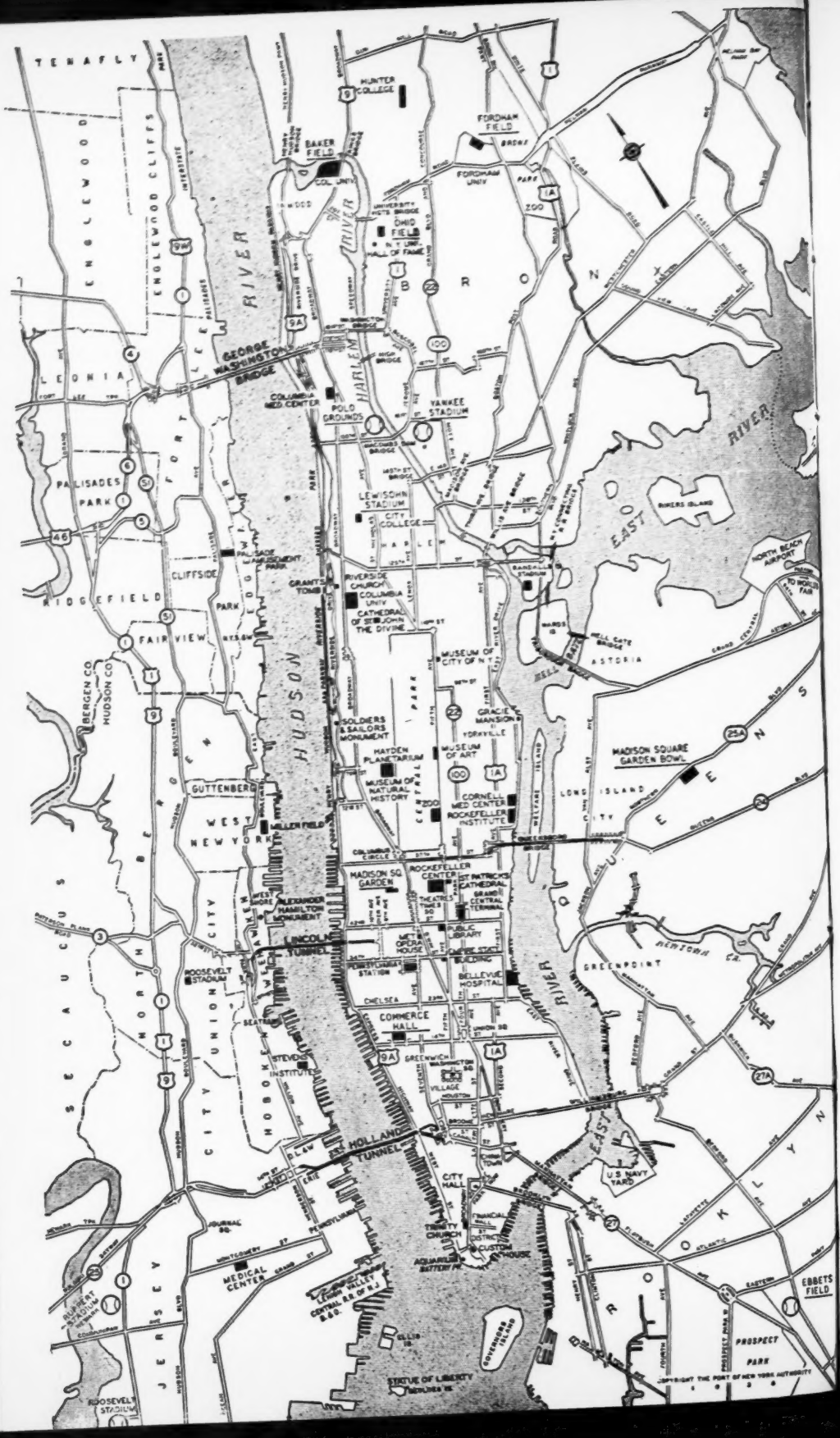
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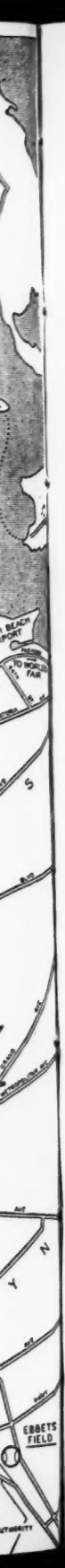

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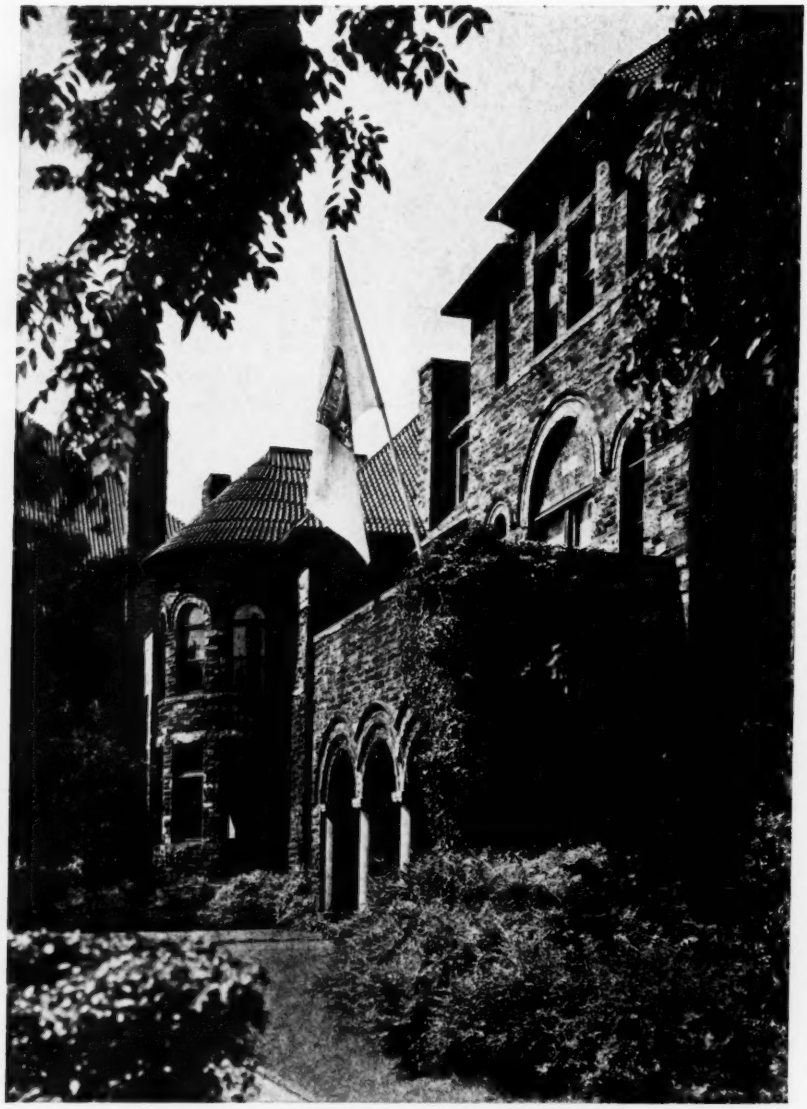

GOUCHER HALL, THE FIRST BUILDING OF GOUCHER COLLEGE
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SYSTEMATIC FACT-FINDING IN COLLEGE ADMINISTRATION

SCHILLER SCROGGS

UNTIL comparatively recent years, the administration of higher education has been based chiefly upon tradition and opinion unsupported by systematic factual investigation. In keeping, however, with the propensity of the current era to test thought objectively, administrative practice tends toward an increased use of objective standards, norms, demonstrations and facts.[1]

Systematic fact-finding and reporting can make more intelligent our solution of many problems in college and university administration. There is no implication here that statistical formulae should supplant human intelligence in administration. The proposal is that an informed intelligence is required, and to the extent that fact-finding can be genuinely informative, it should be used.

If countable data are to be used in the administration of higher education, the issue is: Should and can the data to be gathered be determined upon with reference to the total situation, including what is

[1] Coffman, Lotus D., in Kent, *Higher Education in America,* Ginn and Co., New York, 1930, vii-ix.

being done by all fact-gathering and self-study agencies in the institution? May not the problems of administration be better met by a comprehensive system of statistics, of objective accounting? If so, how shall we decide upon the facts to be gathered? What are the limits of statistical interpretation? What practical considerations and criteria will be helpful in the task?

Let us postulate affirmative replies to the first two of these five questions and devote our attention to the remaining three.

The first step in determining upon the facts to be gathered is to analyze the problem area to find what kinds of information are needed in dealing with problems in that area, and the selection of typical items of that information for further analysis. Such an analysis, considerably simplified, is presented below.

SIMPLIFIED CLASSIFICATION OF SIGNIFICANT AND PERSISTENT PROBLEMS OF STAFF ADMINISTRATION IN HIGHER EDUCATION

Administration of the staff

1. General staff problems
2. Faculty personnel records
3. Faculty organization and administration
4. Size of staff
5. Staff selection, improvement and promotion
6. Faculty qualifications
7. Training college teachers
8. Faculty duties and service loads
9. Faculty housing and welfare
10. Faculty rank
11. Faculty salaries
12. Faculty tenure
13. Faculty freedom
14. Faculty retirement and disability compensation
15. Faculty rights and royalties

These problems can be gotten either from an analysis of the literature or by direct reference to the field. Klein, for example, organized the Land-Grant College Survey by selecting and classifying problems collected through personal interviews.[2] The first method is adequate if not even preferable to the second for the purpose of setting up a continuing system of institutional statistics, because the literature

[2] Klein, Arthur J., *Survey of Land-Grant Colleges and Universities*, Washington, D.C., Superintendent of Documents, 1930, Vol. I, p. x.

contains reference to all problems that have been sufficiently analyzed to warrant their inclusion.[3]

It is likely that not all of the problems listed can be systematically treated in a routine way in any one office. Two criteria are available in delimiting the field of any given office: (1) Systematic fact-finding should be confined to the kinds of information that will be immediately serviceable in making plans and decisions within or directly relating to the function of the office concerned; and (2) among the possible lines of investigation opened by such consideration, selection should be based on the extent to which each is of vital importance to the ongoing institution. (This of course has no reference to research that is not a part of the continuing system of fact-gathering.)

The second step in determining upon the facts to be gathered is to inventory the significant objective units that can be counted and otherwise mathematically treated without loss of valid relationships to the components of the selected information. For purposes of analysis, distinction is here drawn between the finished form of factual material that is used as the basis of administrative action and the elements that compose or underlie it. According to this distinction, data that represent the findings of investigation constitute information about a problem that can be used in dealing with it. But data consisting of specific facts from which those findings were made are essentially items or units, ordinarily thought of as "raw data," that have been collated usually in such manner as to aid inference from them.

The analysis and discovery of significant objective units is in process wherever the problems of administration are being studied. But such analysis does not constitute a part of the systematic fact-gathering process under discussion here. It is, of course, true that every research officer should continuously attempt to devise, validate and improve the statistical units which he uses. But to defer the systematic compilation of institutional statistics until a series of scientifically established units were available would be to fail to use in the administration of education much information objectively found, the approximate accuracy and significance of which are adequate, or at very least better than unsupported and (too often) uncritical opinion.

At any rate, decision concerning the kinds of information to be

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[3] Scroggs, Schiller, *Systematic Fact-finding and Research in the Administration of Higher Education*, Edwards Bros., Inc., Ann Arbor, Mich., 1935, A Criterion of Objectivity, 20-24.

compiled will be followed by a search for the possible units that will yield this information and the selection from among them of the best measures for gauging central tendencies, forecasting trends and modifying or establishing policies. This search is a survey of the literature concerned directly with the problem and the inventory of the units proposed or used.[4] "Best" presupposes criteria of selection. The following criteria for judging units are proposed: (1) intelligibility, (2) comparability, (3) functionality, (4) independence, (5) sensitivity, (6) practicality. An intelligible unit is one that can be apprehended by layman and technician alike with a considerable degree of individual sanction. Comparability denotes that the meaning of the unit as used in one series of data is comparable to its meaning when used eleswhere. A unit is functional in the degree to which it is a significant element of what is measured. Independence in a unit means that it is not associated with any other unit used in the same series of measurements. The sensitivity of a unit is manifested by the accuracy with which it responds to changes in the amount of the attribute measured. A practical unit is one which is accessible for counting, is susceptible of accurate and meaningful mathematical treatment, and can be economically used.

There appear to be three criteria for making selections between alternative units: (1) the personal judgment of the administrator concerned; (2) prevailing practice; (3) the consensus of opinion among competent judges. The first is at present the controlling standard; because (1) prevailing practice is likely to use only the units most readily available, and (2) not many fields have been exhaustively analyzed and the results submitted to the test of competent opinion.[5]

[4] Scroggs, Schiller, *A Survey of Proposed Units for Measuring Service Loads in Institutions of Higher Learning,* Bulletin, Oklahoma A. & M. College, Stillwater, Vol. 29, No. 10, Oct. 1932, for an application of this principle with reference to faculty service loads.

[5] Ward, Jesse L., *The Development of Faculty Personnel Accounting Forms for an Institution of Higher Learning,* Edwards Bros., Inc., Ann Arbor, Mich., 1934, this is an example of applying the third criterion statistically to faculty personnel data.

National Committee on Standard Reports for Institutions of Higher Education, *Financial Reports for Colleges and Universities,* Chicago, The University of Chicago Press, 1935, this publication contains a joint consensus of judgment of competent authorities as to the best classifications to be used in college and university, accounting and reporting.

Zook, George F., and Haggerty, M. E., *Principles of Accrediting Higher Institutions,* Chicago, The University of Chicago Press, this volume gives the general plan of the project for investigating the accrediting procedures of the North Central As-

When the inventory of units has been completed, a most casual survey will show them to be essentially different in nature. A unit may be defined as "any object of thought which can be discriminated from every other object treated as a unit in the same problem.[6] Units may be differentiated in many ways. Four categories are probably adequate for our needs: primary, derived primary, secondary or classificatory and composite.

A primary unit may be defined as "any object which exists or is thought of as separate from other objects."[7] This category may be bifurcated into (1) natural primary units, objects which exist separate and apart in space and are therefore readily distinguishable and counted, and (2) arbitrary primary units, objects which are arbitrarily cut off from natural associations and defined in such manner as to be reproducible in the event that the arbitrary standard is lost.

A derived primary unit is one which is derived from "the most simple of natural relations between quantitative expressions of different kinds."[8] A student is a natural primary unit, and a credit hour is an arbitrary primary unit; the product of these, a student credit hour, gives a derived unit which is of value as a measure of teaching load, because the amount of work which a professor must do may reasonably be expected to vary with both units.

Secondary or classificatory units are terms by which primary units can be classified. For example, the primary unit of a teaching staff is the individual person; but the staff may also be thought of as composed of professors, associate professors, assistant professors, and so on, each of which terms would be a secondary or classificatory unit.

Composite units are special forms of derived units. They are arbitrary units derived by more or less complex statistical processes and acquire their validity from that of the primary units involved, as well as from the appropriateness of the mathematical procedures used. An

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sociation of Colleges and Secondary Schools. The new procedure in general consists of statistical procedures validated against consensus of competent opinion as a criterion. The studies involved can scarcely be considered as validations of statistical units as such, unless one is willing to admit of subjective weights as being objective units, i.e., units that can be described and classified in such a way that other minds, at other times and perhaps under other circumstances, can identify the differences, recognize the characteristics, and arrive at the same or practically the same judgments concerning the same phenomena.

[6] Jevons, W. S., *The Principles of Science,* Macmillan Co., Ltd., London, 1924, 157.

[7] *Ibid.,* p. 305.

[8] *Ibid.,* p. 323.

example of the composite unit may be found in the Index-of-load or Weighted Measure of Teaching Load which was proposed by Reeves and Russell.[9] To this category belong all complexly derived normative units.[10]

Thinking is often confused by a failure to recognize these essential differences in the nature of the units dealt with. Difficulty is further increased when the qualifying terms delimiting a unit are omitted and implied only. For example, there is a difference between a student credit hour per week per semester and a student credit hour per week; yet both are often referred to simply as a student hour, without further definition. It would be awkward and poor practice generally to bog down a unit with a complex name; but the reporter should be sure that he has sufficiently defined his terms so that their exact connotation is known.

An inventory of the principal units used in thirty-two staff administration studies[11] yielded 30 primary units; 10 derived primary, and an undetermined number of composite units; and 84 secondary (classificatory) units.

As these units shade toward the secondary and arbitrary status, they approach informational units in nature. For example, "A Year of Teaching Experience in a College or University" satisfies our accepted definition of a unit. It is questionable, however, whether the greater importance does not lie in the limiting phrase rather than in the numerical count of units. In the proportion that its significance does lie in the limiting phrase, the unit is informational rather than statistical.

Two significant facts stand out with reference to derived primary units found in the thirty-two studies: (1) not many combinations were used; (2) all combinations used were devised to measure service loads. If the thirty units are taken two at a time, 435 different combinations are possible; taken three at a time, 4,060; and taken four at a time, 47,905. But not all of these units are pertinent to more than one or two minor problem areas. A next step, then, will be to group them according to the areas in which they are applicable. The secondary

[9] Reeves, F. W., and Russell, J. D., *College Organization and Administration,* Indianapolis, Ind., Board of Education, Disciples of Christ, 1929, 178-180.

[10] Almack, John C., *Research and Thesis Writing,* Houghton-Mifflin Co., Boston, 1930, The Normative Method, Chapt. V.

[11] Scroggs, Schiller, *Systematic Fact-finding and Research in the Administration of Higher Education, op. cit.,* 33-45.

units are not used here, in the interest of simplicity. Our outline analysis above, reorganized, now appears as follows:

I. Administration of the staff

A. Size
   1. Staff member
B. Appointment, improvement and promotion
   1. Staff member
   2. Affiliation
   3. Degree
   4. Discovery
   5. Field
   6. Leave of absence
   7. Popular magazines read
   8. Professional magazines read
   9. Publications
   10. Rating units (arbitrary)
   11. Year
C. Qualifications
   1. Affiliation
   2. Degree
   3. Discovery
   4. Publication
   5. Rating unit (arbitrary)
   6. Year
D. Service Load
   1. Teaching load
      a. Class (section)
      b. Clock-hour (class period)
      c. Course
      d. Credits
      e. Field
      f. Semester
      g. Staff member
      h. Student
      i. Student conference
      j. Week
   2. Research load
      a. Project
      b. Publication
      c. Clock hour
      d. Semester (or year)
      e. Staff member

3. Administrative load
   a. Hour
   b. Committee
   c. Staff member
4. Public service
   a. Hour
   b. Public contact
   c. Staff member
   d. Week

CHECK-LIST FOR DISCOVERING SIGNIFICANT UNITS

	Class (section)	Clock Hours	Course	Credit (hours)	Field (department)	Semester	Staff Member	Student	Student Conference	Week
Class (section)										
Clock Hours										
Course										
Credit (hour)										
Field (department)	X	X								
Semester										
Staff member	X	X	X	X	X					
Student	X	X	X	X	X		X			
Student conference							X			
Week	X	X								

Figure 1

E. Faculty Welfare
   1. Children
   2. Leave of absence
   3. Popular magazines read
   4. Publication
   5. Quarters (apartment, house, etc.)
   6. Separations (resignations, etc.)
   7. Staff member
   8. Year
F. Faculty salaries
   1. Dollars
   2. Staff member
   3. Year
G. Faculty tenure
   1. Separations
   2. Staff member
   3. Year

H. Faculty retirement and disability compensation
   1. Dollars
   2. Staff member
   3. Year

I. Faculty rights and royalties
   1. Discoveries
   2. Dollars
   3. Inventions
   4. Publications
   5. Staff member
   6. Year

The outline reduces the number of units to be considered at any one time to a maximum of eleven (in this particular problem area). Occasionally the important combinations are obvious; e. g., in the subarea, "Faculty salaries," salary dollars per year per staff member, a three-unit combination. But for areas for which there may be devised numerous units a systematic method of studying the possibilities of unit combination is needed. Such a device consists of a cross-check of units that should be considered, taking each mutually included square as representing the union of two units. (See Figure 1.) A check is placed in the square to indicate that the combined unit is to be considered. The criteria to be applied have been listed above.

After all combined units which promise significance to the problem at hand are checked, a list of them is made, and further reduction is effected by striking out those which upon critical review still appear remotely related to the problem or which are not sufficiently dissociated from others in the list to justify inclusion. The completed list follows:

Significant Two-Unit Combinations

1. Sections per department
2. Sections per staff member
3. Students per section
4. Clock hours per department
5. Clock hours per staff member
6. Student clock hours
7. Courses per staff member
8. Students per course
9. Student credit hours
10. Credit hours per staff member
11. Staff members per department
12. Students per department

13. Students per staff member
14. Student conferences per staff member

Not all units appear to be sufficiently defined. The process is therefore repeated, the newly derived units being used as the row items in the new cross-check table, and the original list as the column headings. This procedure, corrected by critical revision as before, gives the following list of combined units:

Significant Three-Unit Combinations

1. Sections per department per semester
2. Sections per staff member per department
3. Sections per staff member per semester
4. Clock hours per department per week
5. Clock hours per staff member per department
6. Clock hours per staff member per week
7. Student clock hours per department
8. Student clock hours per staff member
9. Student clock hours per week
10. Courses per staff member per department
11. Students per course per department
12. Students per course per staff member
13. Student credit hours per department
14. Student credit hours per semester
15. Student credit hours per staff member
16. Credit hours per staff member per department
17. Students per staff member per department
18. Students per section per department
19. Student conferences per staff member per department
20. Student conferences per staff member per week

Repeating the procedure by using the three-unit combinations in place of the two-unit ones, we obtain the following list of four-unit combinations:

Significant Four-Unit Combinations

1. Sections per staff member per department per semester
2. Clock hours per staff member per department per semester
3. Clock hours per staff member per department per week
4. Student clock hours per department per week
5. Student clock hours per department per semester
6. Student credit hours per staff member per department
7. Student conferences per staff member per department per week

The final step is to select and tabulate the units from the foregoing analyses the counting and other statistical treatment of which will yield the information sought. "The function of tabulation in the general scheme of a statistical investigation is sufficiently definite; it is to arrange in easily accessible form the answers to the questions with which the investigation is concerned."[12]

The problem is one of arranging in tabular form a framework of classifications which may be filled in with the appropriate unit counts. For example, suppose we are to tabulate from staff service reports the clock-hours-per-staff-member-per-department. The primary unit is the clock hour. The classificatory aspects can be accurately depicted by a system of tabular headings and sub-headings. This classificatory system can be set up in schematic form by using each classification as an item of an outline. The relationships of the several headings are shown by co-ordinate positions in the outline, thus:

II. Utilization of the Teaching Staff

A. Departmental summary of the unweighted loads of instructors
   1. School and department
   2. Number of instructors in department
   3. Unweighted hour per week loads, total of
      a. Classroom instruction
      b. Other services
         (1) Public service
         (2) Authorized research
         (3) Institutional services, total of
            (a) Student welfare and records
            (b) School
            (c) Department

The outline is a final check-list of the information the tables will contain and is serviceable in constructing the tabular forms. Figure 2 shows a table head that was constructed from the foregoing outline.

The final point to be discussed covers the limits of statistical interpretation. Granted that there exist clear-cut units which can be used in fact-finding with reference to a given problem, it does not follow that they should be included in the routine collection and tabulation of data. Information that is needed in the administration of higher education is susceptible of objective analysis in the degree that there

[12] Bowley, Arthur L., *Elements of Statistics*, Charles Scribner's Sons, N.Y., 1926, p. 52, Chap. II, "Definition of Unit," also has bearing here.

DEPARTMENTAL SUMMARY OF THE UNWEIGHTED SERVICE LOADS OF INSTRUCTORS

(In Hours of Service per Week)

First Semester, 1932–33

School and Department	Number of Instructors	Instruction	Other Services							Total Unweighted Hours of Service
			Public	Research	Institutional Services				Total Other Services	
					Student Welfare and Records	School	Dept.	Total Institutional		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)

Figure 2

has been elaborated a system of principles which enables the theorist to anticipate results and thereby to evaluate present situations with sufficient precision to enhance judgment. Few if any of the units in the field of college and university administration meet this criterion to any great extent. In some fields no statistical units have been developed at all. For example, academic freedom is susceptible of no measurement at present (further than the enumeration of separations for various reasons, which is really a problem in tenure rather than freedom). And since the principles by which it is defined shift with the type of institutional control and the age in which the staff lives (and consequently the rights which society is willing to grant professors), there is no likelihood that scientific objectivity will ever be attained.

At the other extreme, faculty salaries, tenure and service loads can be associated with units that are objective and to some extent reliable and valid. We believe that any instructor who has more than four or five sections that meet two or three times a week is carrying more work than he can do justice to. But the section-per-staff-member-per-department-per-semester is an extremely variable unit, depending for its significance upon many factors, such as amount of work outside of class, size of class, credit value of course, difficulty of the work, the professor's familiarity with and organization of the material, level of instruction, and possibly others. Until a definite frame of reference is agreed upon in which to orient thought relative to service loads, only rough interpretations of statistical findings are possible.

Since the analysis of service loads is one of the more objective problem areas in the administration of higher education institutions, the

generalization is warranted that there is no need in present practice for highly precise measurement. Measurement of factors in higher education is far from that validity and reliability which is necessary for anything approaching scientific precision. The most that can be said for such measures is that they are normative and are valid in so far as experience indicates that they coincide with the consensus of opinion of competent observers.[13]

Of course, the lack of constancy in educational measures is by no means an argument for their abandonment. It is a challenge to all thinkers in the various fields concerned to devise better techniques and methods, to discover and standardize better units of measurement and to elaborate further the literature of the research involved, to the end that we shall have both the instruments and the theory necessary for making and interpreting precise measurements. In the meanwhile, we should carry on with the best that is available.

—Volume 14, Number 2

[13] Almack, John C., *op. cit.*, 127, for discussion of the normative method.

THE EVOLUTION AND DEVELOPMENT OF THE REGISTRAR'S OFFICE

EZRA L. GILLIS

THE SCOPE of this paper will be limited to a brief analysis of the forces operative in the development of the registrar's field of administration. Its biography—the personal interest stories of the pioneer dreamers and builders will be left to some future historian. It is hoped, however, that this may lay the ground work for such an account.

It has been my privilege to see the national association of registrars grow in membership from 13 institutions, representing 12 states, to a membership of 756 institutions, representing 48 states, the District of Columbia, and 6 foreign countries. I have seen the status of the registrar change from that of a clerk to an administrator who is recognized not only in the councils of the universities, but also in the educational councils of the nation. These changes cover a period of less than thirty years.

It is an interesting experience to look back over movements with which we have been identified. Things constantly change, but in a way hardly perceptible to us. We are not today what we were yesterday, nor what we shall be tomorrow. Time moves on and we move with it, with as little consciousness of movement as our awareness of the revolution of the earth upon its axis or in its orbit around the sun. It is only when we reckon by periods of time that the changed relations become apparent. It is an interesting experience to live in the beginning of a movement, to be identified with its progress, and then to stand aside and view it from a distance in order to appraise the factors associated with its development. This upward trend of the registrar's office seems to have been in three distinct stages. Yet today we have all three stages represented.

The first stage has been described by President Nicholas Murray Butler in his welcome address to the registrars in 1916—"One of the least understood questions in the world is the question of the administration of anything. Curiously enough it comes last and not first in the development of activities and of institutions. . . . It has been very interesting to me to watch the evolution of this office. The Registrar here at Columbia was at first the President, and you will find here, in

these old records which are assembled in this room, original entries in the handwriting of the President of the College. Then it was usual to assign these duties to a Professor. Then later a clerk was provided, not a Registrar, but a clerk. He assisted the President in writing letters, in keeping records, in checking up the very small and insignificant accounts of those days."[1] Dr. Judd in commenting on the attitude of the professor assigned this work said, "He has usually regarded this as hack work, and as a distraction from his regular duties rather than as a part of these duties."[2] My own experience verifies these statements.[3] A quotation from the minutes of the Board of Trustees of the University of Kentucky at the time the writer was elected Registrar will give some idea of the general conception of the office at that time—"He will be needed about two hours a day and could teach the rest of the time." This was not allowing for any clerical assistants. At this change from Assistant Professor of Education to Registrar more than one of my colleagues expressed his compassion at my demotion.

"The second stage in the evolution of the office showed it as a large clerical undertaking demanding the full time of a trained person and several assistants," quoting in substance from Dr. Capen. "It was looked upon as a mere mechanism for promoting academic efficiency, and the registrar was to a college what a bookkeeper is to a business, a necessary adjunct, but not generally taken into the counsels of the firm."[4] Dr. Judd in his address before the Registrars in 1919, in speaking of this fact said, "Indeed, one may say that the registrar's office was one of the most formal and remote divisions of the university organization. . . . In the main the machinery of the institution operated without reference to these records, the records being the product of the institution's work, but not a part of its operating control."[5]

The technique of the work was considered by some registrars an end within itself, and they scoffed at the idea of becoming "educational prophets." It must have been this type of registrar that Mr. Tarbell had

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[1] Butler, Nicholas Murray, "Address of Welcome," *Proceedings of the Seventh Annual Meeting of the A.A.C.R.*, pp. 7-9.

[2] Judd, Charles Hubbard, "Some Possible Contributions of Registrars to the Solution of Educational Problems," *Proceedings of the Ninth Annual Meeting of the A.A.C.R.*, p. 29.

[3] *Proceedings of the Tenth Annual Meeting of the A.A.C.R.*, pp. 224, 225.

[4] Capen, S. P., "The Registrar's Office a Barometer of Educational Tendencies," *Proceedings of the Tenth Annual Meeting of the A.A.C.R.*, p. 24.

[5] Judd, C. H., "Some Possible Contributions of Registrars to the Solution of Educational Problems," *Proceedings of the Ninth Annual Meeting of the A.A.C.R.*, p. 29.

in mind when he referred to the registrar "with his card-index mind, his dictaphone voice, his adding machine heart, and his statistical soul."[6] President Thwing must have had the same in mind when he introduced me to the Ohio Registrars. He said, "A registrar is a man, who, when a student comes in, says, 'What's your name? What do you want? No!' "

To change this attitude in the minds of his associates was quite a problem for the registrar.[7] Ben Franklin understood this phase of human nature. When he went from this new country to England and asked for a job as a printer, he understood the attitude of the literary man toward people from this wilderness country. When he was asked to set some type he brought back this statement, neatly and correctly set up, "Can any good thing come out of Nazareth?" Philip said. "Come and see."

The third stage is one into which many registrars are now entering. We attained a professional status when we began the analysis and interpretation of the data in our office. As custodians of the richest storehouse of source material connected with the institution, our best thought should be centered on the organization and classification of this data so as to make it available for administrators and professors of education. Almost from the beginning boards of trustees have been interested in a financial audit, with little or no attention paid to an academic audit or to an appraisement of the efficiency of the institution in attaining the ends for which it was created. A thorough, comprehensive academic audit should enable the administrative and instructional problems of an institution to be solved on a scientific basis, and should result in the improvement of administration and instruction,and in the equitable distribution of the institution's funds.

This rapid review has flooded my memory with experiences which for the present must be set aside that we may discuss some of the basic laws that influence human behavior. The laws that form the science of conduct are as immutable as the laws of the biological and physical sciences and are as fixed as the law of gravitation or the forces that control the currents of the ocean.

The great and essential things made possible by these laws are so common that we take them for granted. The best in life is in the reach of every normal person who works in harmony with them. Some of them may be stated briefly as follows: Inception and growth in the in-

[6] Tarbell, Arthur M., "The Look Forward for the Registrar's Office," *Eighth Annual Meeting of the A.A.C.R.*, p. 90.

[7] *Proceedings of the Tenth Annual Meeting of the A.A.C.R.*, p. 226.

tellectual world form the basis for progressive thinking and are the sources of interest in education both in material and spiritual things. Rapidity of growth depends upon favorable conditions and upon the power and wisdom of the guiding spirit. The power to initiate, the power to progress, and the inner urge for better things are the distinctive characteristics of the human family. Endowed with these we may make the end attained become the means for still greater things.

If we accept these as basic principles we are free agents, the architects of our own destiny. Growth of an organization must be in harmony with the provision made for man to develop and with the provision which leaves all development in his hands.

In keeping with these principles all things have an humble beginning. Within the memory of some of us our universities and leading colleges, now large and complicated enterprises, were one-man concerns governed by a president without official advisers, and with little or no clerical assistance. From the time the four-year course was established at Yale it was 34 years before the enrolment reached 100. The average enrolment for that period was 56. For this first hundred years the average enrolment was 114.[8] At Harvard, two hundred years after its establishment, the undergraduate enrolment was only 233, and the total only 423.[9]

Not only was the enrolment small but the course of study during this period was limited. Chemistry was taught at Harvard for seven years before it was accepted formally as a part of the curriculum and credit given for it toward a degree.[10] Physics for a time was considered a part of chemistry, and history was an adjunct to either the classical or theological chairs.

The titles of the professors of any institution fifty years ago would make interesting reading.

CATALOG OF THE UNIVERSITY OF KENTUCKY—1889-90

President James K. Patterson, Professor of Civil History, Political Economy, Metaphysics, and Moral Philosophy.

(This combines the titles used in the five courses in which he was listed as teacher.) The first catalog at Columbia was published by the janitor. His other titles were Assistant Librarian and Proctor.[11]

[8] Camp and Welch, *Yale, Her Campus, Classrooms and Athletics*, pp. 424, 425.
[9] *Catalogue of Harvard University, 1836-37.*
[10] Thwing, Charles F., *A History of Higher Education in America*, p. 302.
[11] *A History of Columbia University, 1754-1904*, p. 177.

Quoting from President Thwing, "Every enlargement of the domain of knowledge has ultimately resulted in the enlargement of the academic field."[12] The accumulation of knowledge in the seventeenth and eighteenth centuries was slow and there was little change in the course of study. At Harvard for almost two hundred years its limited course of study remained in essential elements unchanged. The great-great grandchildren of the first graduates pursued the same course which their elders had pursued. All students in all the colleges up to the first quarter of the nineteenth century took practically the same course.

The increase in the course of study in the last half of the nineteenth century was in keeping with Thwing's statement. However, the accumulation of knowledge in the field of science since that time and the very rapid changes in the course of study would stagger his imagination. The automobile, the airplane, and the radio have revolutionized not only the business world, but also the academic field. Twenty-nine years after the invention of the airplane twenty-one universities and colleges were offering degrees in aeronautical engineering and fifty other institutions were offering courses in this field.[13] It has been estimated that 95 per cent of the colleges are offering courses relating to electrical communications.

Now nearly every phase of human endeavor is reflected in our academic program. This rapid growth of the course offerings of the college, the subsequent increase in enrolment, and the accumulation of records made a corresponding increase in the registrar's responsibilities. His first great responsibility was to perfect the technique of the office so that the administrative machinery would move with the minimum amount of friction and give a service proportional to the energy expended.

Other movements which had a direct bearing on the registrar's office were the movements to test the efficiency of instruction and administration. As early as 1845 an attempt was made to measure the efficiency of the Boston schools. We learn from Smith and Wright that Horace Mann at that time realized the possibilities in this field and prophesied the future scientific use of tests.[14] A few years later in England a simi-

[12] Thwing, Charles F., *A History of Higher Education in America*, p. 300.
[13] *The 1933 College Blue Book*, pp. 250, 251.
[14] Smith and Wright, *Tests and Measurements*, p. 1.

lar attempt was made to measure the effectiveness of teaching. However, conditions were not favorable to the spread of the measurement movement at that time. It is common knowledge that it was more than half a century later, under more favorable conditions, that the movement spread over the United States and influenced all types of educational institutions. The source material in the registrar's office made it a suitable laboratory for these experiments.

We learn from Smith and O'Dell that they listed 1,633 surveys representing 48 states and averaging 34 surveys for each state.[15] These were classified in four groups—city, county, state, and higher institutions. One fourth of the surveys of higher institutions was made prior to 1920 and the others between 1920 and 1930. They covered nearly every phase of life.

May we now give consideration to the information received from the registrars.[16]

Let us pause to consider the opinions of the registrars on the two basic principles referred to in the beginning of this paper, the conditions favorable to success and the wisdom of leadership. This should help us in planning and building for the future. The registrars were asked to name at least three factors contributing to the growth of the office. We left them to phrase these reasons in their own way. There were 172 suggestions made which may be loosely grouped under the headings, Conditions Favorable to Success, and Leadership. While there were some different view points given, such as, the suggestion of the close co-ordination of the registrar's office with the business office, and the suggestion for the separation of the two, in general, there was agreement on the main factors influencing its development.

Under Conditions Favorable to Success were the following: movements toward centralization and standardization, the growth of the institutions, and the recognition of the value of academic records as the basis for educational research. While the spirit of the age was a large factor in creating general conditions favorable to the development of the office, on the registrars, and on them alone, rested the responsibility

[15] Smith and O'Dell, *Bibliography of School Surveys.*

[16] Registrars in the land-grant colleges, the state universities not land-grant, and twenty-eight large private institutions were asked to assist in this study. Of the 73 registrars who sent questionnaires which were used 62 had been registrar for more than five years, two had been registrar for 41 years, and the median number of years of service was 15.

of making use of their power to initiate, their power to progress and their inner urge for better things. Among the items listed under Leadership were the attitude of the administration, additional administrative duties, the vision of service, and the influence of others mainly through the American Association of Collegiate Registrars.

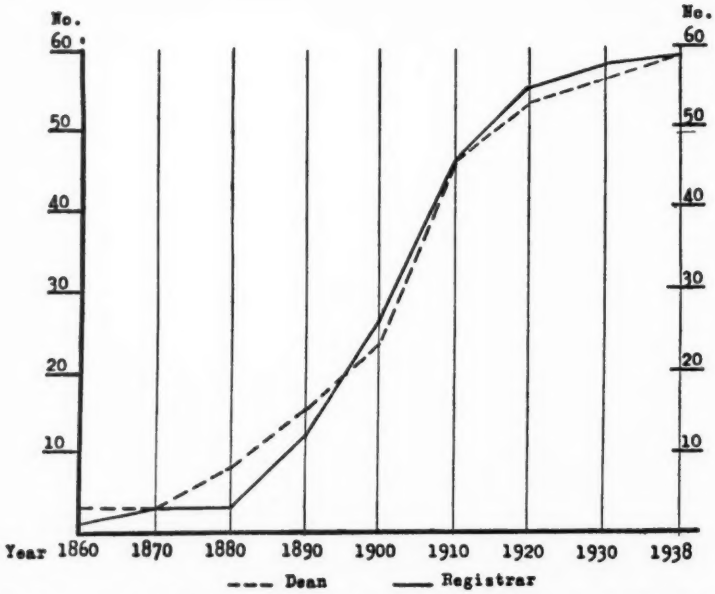

FIG. 1. Comparative Number of Deans and Registrars by Decades from 1860 to 1938. (Only 59 institutions gave dates for both dean and registrar.)

	1860	1870	1880	1890	1900	1910	1920	1930	1938
Dean	2	3	8	15	23	46	53	56	59
Registrar	1	3	3	12	26	46	55	58	59

Note. This deals only with the number of offices and has no relation to the status. "Dean" was first used in 1792 and "Registrar" in 1840.[17] The median year for the term "Dean" was 1902, and the median year for the term "Registrar" was 1900. "Registrar" appeared before "Dean" in 25 institutions. The two offices were similar in that they had an humble beginning. The dean at first was thought of as a handy-man for the president, or as his good man, "Friday." However, the elective system lead to the earlier development of the professional aspect of the dean's work, the selection of the faculty, the planning of the curriculum, and the supervision of the students' programs. The professional aspect of the registrar's office developed at a later date.

[17] McGrath's *Evolution of Administrative Offices in Colleges and Universities* gives 1828 as the date of the appointment of the registrar at Brown University, and 1887 as the median year for the establishment of the office in the 32 institutions studied.

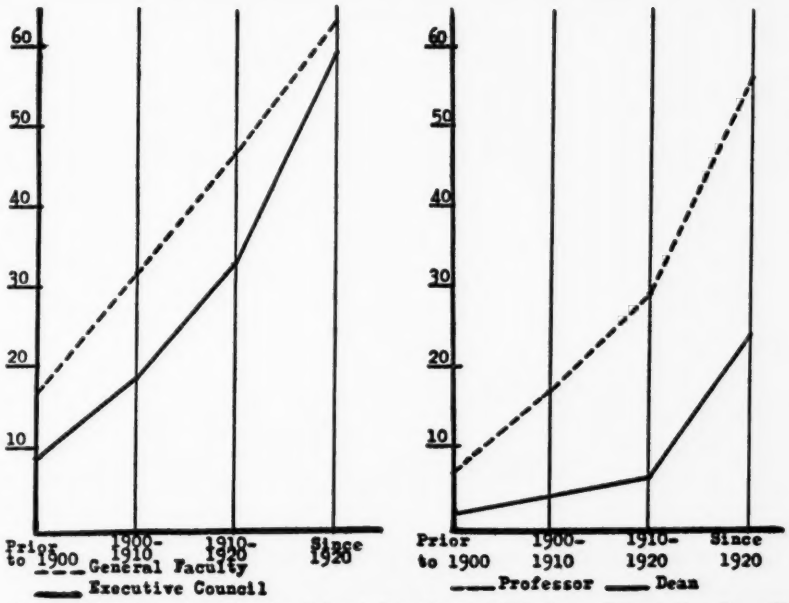

FIG. 2. Number of Registrars Admitted to General Faculty and Executive Council by Periods.

FIG. 3. Number of Registrars Receiving Salary Equivalent to the Average Salary of the Professors and the Average Salary of the Deans by Periods.

Changes in Registrar's Status	Prior to 1900	1900-1910	1910-1920	Since 1920
Membership:				
General Faculty	17	15 (32)*	15 (47)	16 (63)
Executive Council	9	10 (19)	14 (33)	26 (59)
Salary Equivalent to that of:				
Professor	7	10 (17)	12 (29)	27 (56)†
Dean (Academic)	2	2 (4)	2 (6)	18 (24)

* Figures in parentheses are the cumulative totals.

† The 56 registrars who now receive a salary equivalent to or exceeding the average salary of the professors in their own institution include the 24 whose salaries approximate the average for the academic deans.

Note. C. M. McConn in his study of 21 institutions from 1910 to 1920, "The Status and Salaries of Collegiate Registrars,"[18] made the following statements—"The total salaries of these registrars have advanced 64.8 per cent—half as much again as the salaries of deans or professors or instructors during the same period." "By the current practice of two-thirds of the institutions in this more or less representative group, the registrar is financially ranked approximately on a par with the typical or average full professor." This calls to mind a statement made by Dr. Capen in speaking of registrars in a larger group of institutions: "The registrar of the second stage is a little lower than the angels, if fullfledged professors may be accounted as part of the heavenly family."[19]

[18] *Proceedings of the Tenth Annual Meeting of the A.A.C.R.*, pp. 78, 80.

[19] Capen, S. P., "The Registrar's Office a Barometer of Educational Tendencies," *Proceedings of the Tenth Annual Meeting of the A.A.C.R.*, p. 25.

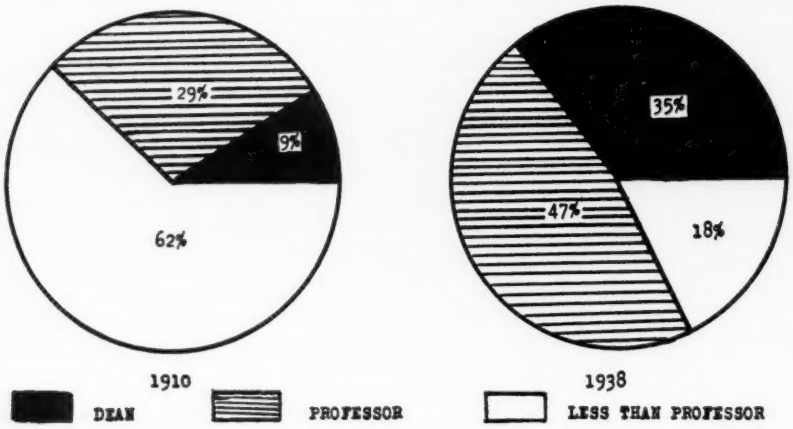

FIG. 4. Percentage of Registrars Who Receive Salary Equivalent to the Average Salary of the Dean, the Average Salary of the Professors, and Less Than the Average Salary of the Professors in 1910 and 1938.

Year	Number of Registrars	Salary Equal to Average Salary of Academic Dean		Salary Equal to Average Salary of Professors		Salary Less Than Average Salary of Professors	
		Number	Per cent	Number	Per cent	Number	Per cent
1910	45	4	8.8%	13	28.8%	28	62.4%
1938	68	24	35.2%	32	47.1%	12	17.7%

Note. In A Letter to Registrars in 1938, President J. R. McCain of Agnes Scott College said, "The average salary of the registrar has almost doubled during the ten-year period in spite of the depression and its financial casualties."

From the beginning the national association has been used as a clearing house for the dissemination of useful information. In the early days a few of the registrars got together a mass of teachable material. This information was pooled and the best in both the technique and professional work was made available for every registrar. Among the great things that we have got out of the Association are the development of a professional attitude toward the work, the vision of the possibilities for service in this field, and the life-long friendships.

From the foregoing the following appears to be true:

1. All alike have been affected by the general conditions favorable to the development of the office. Differences in the status of the offices are due to the local conditions and to the registrar.

2. The registrar is in some measure responsible for the improvement of the local conditions.

3. At present offices can be found to illustrate each of the three stages in the development of the office.

4. The office of dean and the office of registrar were introduced at about the same time and increased in number at about the same rate.

5. The dean's office as a major administrative office developed at an earlier date than the registrar's office.

6. About 86 per cent of the registrars are members of the executive council and about 93 per cent are members of the general faculty.

7. About 35 per cent of the registrars receive a salary equivalent to the average salary of the academic deans and 82 per cent receive a salary equal to or greater than the average salary of the professors.

8. Rapid progress in the scientific and business world as reflected in the academic program, the test and measurement movement, and the survey movement were concurrent forces in creating the conditions favorable to the development of the registrar's office.

There have probably been more changes in the life and thinking of the people in the last 50 years than in any 2000 years previous to that time. Our standards of beliefs and educational policies have gradually and imperceptibly adjusted themselves to these altered conditions. This has been termed "a miraculous inherent power." The utilitarian instinct is so deep-seated in our nature that the mass of students lose interest in subjects that claim only cultural value. It is not the part of wisdom to try to crush these basic or natural instincts but to direct them into the channels in which they can best serve the high purpose for which they were created. While the Church dominated education the ancient languages were taught so that at least the religious leaders might read the Scriptures in the original. The scientist insists on the Romance Languages for their major students that they might have access to the source material in these languages. Quoting from Henry W. Longfellow in his inaugural address, accepting the Chair of Modern Languages at Bowdoin College, "The mere acquisition of a language then is not the ultimate object, it is a means to be employed in the acquisition of something which lies beyond."[20] It appears to follow that all subjects are tool subjects and should be taught so as to have cultural value. Likewise, all departments in an institution are instruments of service, and their value is in proportion to their contribution to the cultural objectives, the highest and finest qualities of the human mind.

[20] Thwing, Charles F., *History of Higher Education in America*, p. 306.

Our success and happiness depend upon our attitude of mind and heart. If we desire the same status and the same salary as other college officials we must take an equivalent training and give an equal service. On other occasions I have discussed the laws that govern the more personal relations of the registrar.[21] These laws that we have thought of as arbitrary, are, rightly interpreted, laws that were made for our welfare and our happiness. The strict observance of them would make for a perfect understanding and for ideal human relations. We would then hold inviolable the human touch in administration.

May I in one sentence leave with you my central theme? *Our success depends upon the observance of certain laws, our happiness depends upon the motive that inspires the observance.*

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[21] "A Graduate Program for Registrars," *Bulletin of A.A.C.R.*, Vol. 7, pp. 109-111. "A Registrar Looks at His Job," *Bulletin of A.A.C.R.*, Vol. 9, pp. 329-335.

GEOGRAPHICAL DISTRIBUTION OF LIBERAL ARTS STUDENTS IN MICHIGAN COLLEGES AND UNIVERSITIES

W. W. WHITEHOUSE

THIS REPORT presents a study of the geographical distribution of the 23,612 liberal arts students enrolled in Michigan colleges and universities. The chief data presented concern the measurement of the distance between the residence of each student and the campus of the college which he attends. The study was originally proposed to the Michigan Association of North Central Colleges with the thought that it would provide information in a convenient form that might be used by the individual colleges for a study of their present enrolments and as a basis for future developments. Such a continuation of this study might deal with a comparison of the liberal arts college enrolment and the professional divisions, in terms of geographical distribution.

It was necessary to rely upon each institution for the list of students and addresses on which the study was based, but an effort was made to secure comparable and accurate data. Each institution was asked to supply the list of liberal arts students (full-time or part-time) enrolled during the fall semester or term of the school year 1936-37. Where it was not possible to secure the lists for 1936-37, those for the fall enrolment of the preceding year were used.

It is obvious that the definition of a liberal arts student may differ from institution to institution. Some students enrolled in the so-called "liberal arts" colleges or in the teachers colleges might have courses which at a university would qualify them for enrolment in another department, but these cases seemed negligible for the purposes of our study.

In the three largest institutions (University of Michigan, Michigan State College and Wayne University) there has also been an additional problem because of differences in administrative divisions. At the University of Michigan the enrolment for the "College of Literature, Sciences and the Arts" was used as the basis for tabulation. The "College of Liberal Arts" at Wayne University, and the "Division of Liberal Arts" at Michigan State College were the units used. The "Division

MICHIGAN
Legend:
Numbers in circles refer to colleges as listed in the classification of colleges.
Circles = 25 mile area around each campus.

FIG. 1. Map of Michigan Showing Location of Colleges and Universities.

of Applied Science" at Michigan State College was not included in the study.

COLLEGES INCLUDED IN THE STUDY

The data were available for a total of 36 institutions with a combined liberal arts enrolment of 23,612 students. The names of these institutions are listed below, the numbers corresponding with those in Figure 1. For convenience they are grouped according to six classifications, which will be used eleswhere in the report.

State University and College
1. University of Michigan
2. Michigan State College

State Teachers Colleges
3. Central State Teachers College
4. Michigan State Normal College
5. Northern State Teachers College*
6. Western State Teachers College

Municipal Universities
7. Wayne University

Municipal Junior Colleges
8. Bay City Junior College
9. Flint Junior College
10. Grand Rapids Junior College*
11. Highland Park Junior College*
12. Ironwood Junior College
13. Jackson Junior College
14. Muskegon Junior College
15. Port Huron Junior College

Church Related (Catholic)
16. Catholic Junior College
17. Jordan College
18. Nazareth College
19. St. Joseph's College
20. St. Mary's College
21. University of Detroit

Church Related (Protestant)
22. Adrian College*
23. Albion College*
24. Alma College*
25. Calvin College*

* The enrolment figures for the fall semester or term of 1936-37 were not available for the institutions designated with an asterisk (*); the enrolment for the fall semester or term of 1935-36 was therefore substituted.

26. Emmanuel Missionary College*
27. Hillsdale College*
28. Hope College*
29. Kalamazoo College*
30. Olivet College
31. Spring Arbor Seminary
32. Suomi College*

Independent

33. Battle Creek College
34. Detroit Institute of Technology
35. Ferris Institute
36. Grand Rapids College of Applied Science

LOCATION OF MICHIGAN COLLEGES

In the State of Michigan 23,612 liberal arts students are enrolled in colleges and universities. Of that number 16,318 are concentrated within *five* of the 83 counties. These five are in centers of population density, and, moreover, are in the path of the best transportation facilities, including main automobile highways and the main line of the New York Central Railroad. It is noteworthy that the 26 counties in the upper part of the lower peninsula have no institution of collegiate rank. In the northern peninsula, the three schools have a total enrolment of a little less than 1,000 or 4 per cent of the total.

Table 1 makes apparent certain facts concerning co-education in Michigan which are of interest, though not pertaining directly to the geographical distribution.

1. Michigan in her liberal arts schools is 97 per cent co-educational. Of the four schools which furnish 3 per cent of the total enrolment, two are Catholic schools for girls with a joint enrolment of 318; one a Catholic school for boys, with 111 enrolment; and the fourth is the Detroit Institute of Technology, with 212 students.

2. In the 32 co-educational schools, 22 have more men than women. These include the state university and college; three of the four teachers colleges, and all but two of the eleven Protestant colleges. The eight municipal colleges are evenly divided; other differences are scattered.

3. Co-education is an actual fact in Michigan, with 54.2 per cent men as against 45.8 per cent women in liberal arts schools. (Statistics including all of the professional schools would considerably alter that ratio.)

TABLE 1. TOTAL ENROLMENT FOR EACH COLLEGE

Name of Institution	Total	Men	Women
Adrian	183	117(63.9%)	66(36.1%)
Albion	691	400(57.9%)	291(42.1%)
Alma	256	158(61.7%)	98(38.3%)
Battle Creek	376	92(24.5%)	284(75.5%)
Bay City Junior	348	209(60.0%)	139(39.9%)
Calvin	407	257(63.1%)	150(36.9%)
Catholic Junior	80	27(33.8%)	53(66.3%)
Central State Teachers	830	347(41.8%)	483(58.2%)
Detroit Inst. of Tech.	212	212(100%)	0(0.0%)
Emmanuel Missionary	451	229(50.8%)	222(49.2%)
Ferris Institute	54	37(68.5%)	17(31.5%)
Flint Junior	316	155(49.1%)	161(51.0%)
Grand Rapids College	35	18(51.4%)	17(48.6%)
Grand Rapids Junior	142	59(41.5%)	83(58.5%)
Highland Park Junior	197	96(48.7%)	101(51.3%)
Hillsdale	316	170(46.2%)	146(53.8%)
Hope	486	305(62.8%)	181(37.2%)
Ironwood Junior	222	133(59.9%)	89(40.1%)
Jackson Junior	236	157(66.5%)	79(33.5%)
Jordan	135	90(66.7%)	45(33.3%)
Kalamazoo	304	176(57.9%)	128(42.1%)
Michigan State College	1429	828(57.9%)	601(42.1%)
Michigan State Normal	1544	582(37.7%)	962(62.3%)
Muskegon Junior	250	145(58.0%)	105(42.0%)
Nazareth	194	0(0.0%)	194(100%)
Northern State Teachers	576	270(46.9%)	306(53.1%)
Olivet	280	152(54.3%)	128(45.7%)
Port Huron Junior	155	89(57.4%)	66(42.6%)
St. Joseph's	124	0(0.0%)	124(100%)
St. Mary's	111	111(100%)	0(0.0%)
Spring Arbor Seminary	60	34(56.7%)	26(43.3%)
Suomi	48	22(45.8%)	26(54.2%)
University of Detroit	450	371(82.4%)	79(17.6%)
University of Michigan	4684	2924(62.4%)	1760(37.6%)
Wayne University*	5631	2905(51.6%)	2726(48.4%)
Western State	1799	923(54.6%)	876(45.4%)
Totals	23612	12800(54.2%)	10812(45.8%)

* Since most of their students qualify as legal residents of Wayne County, the tabulation was based on the location of the high schools from which they were graduated.

LIBERAL ARTS ENROLMENT BY INSTITUTIONAL CLASSIFICATION

Other observations, as revealed in Table 1, concerning the relative size of the institutions, deserve comment.

1. Wayne University, situated as it is in Michigan's densest population center, outranks all other universities in the size of its liberal arts department, numbering 5,631.

2. The state-supported schools, including the university, the state college and the teachers colleges, rank next in order of size, four of the six schools exceeding 1,000 in enrolment.

3. The twenty-one private institutions, both denominational and independent, are smaller units, only one of them exceeding 500 in enrolment, while five of them number fewer than 100.

4. The eight municipal colleges range in size from 142 to 316.

5. Combining the figures given in Table 1 for total enrolment, we secure the following institutional classification:

Institutional Classification	*Number Enrolled*	*% of Total Enrolment*
State University and College	6,113	25.89
Teachers Colleges	4,749	20.11
Municipal University	5,631	23.85
Municipal Junior Colleges	1,866	7.90
Catholic University and Colleges	1,094	4.63
Protestant Colleges	3,482	14.75
Independent	677	2.87
Total	23,612	100.00

6. By recombining these groups, a further comparison is apparent. Note that nearly half, or 46 per cent, are enrolled in state-supported schools and that almost a third are in municipally-supported institutions.

State University and Colleges	10,862	46.00
Municipal University and Colleges	7,497	31.75
Church University and Colleges	4,576	19.38
Independent	677	2.87
Total	23,612	100.00
Public Institutions	18,359	77.75
Private Institutions	5,253	22.25
Total	23,612	100.00

7. Taking the North Central Association of Colleges as the criterion, it is found that all of the institutions under the classification of public are on the approved list, while 35.3 per cent of the students enrolled in the independent colleges are in institutions not approved.

8. One familiar with the increase in liberal arts enrolment in Michigan in recent years may hazard the statement that it has been cared for by expansion in the state institutions and by the increase in municipal colleges. The denominaional colleges, even if they maintained their numerical enrolment, care for a decreased percentage of the total number.

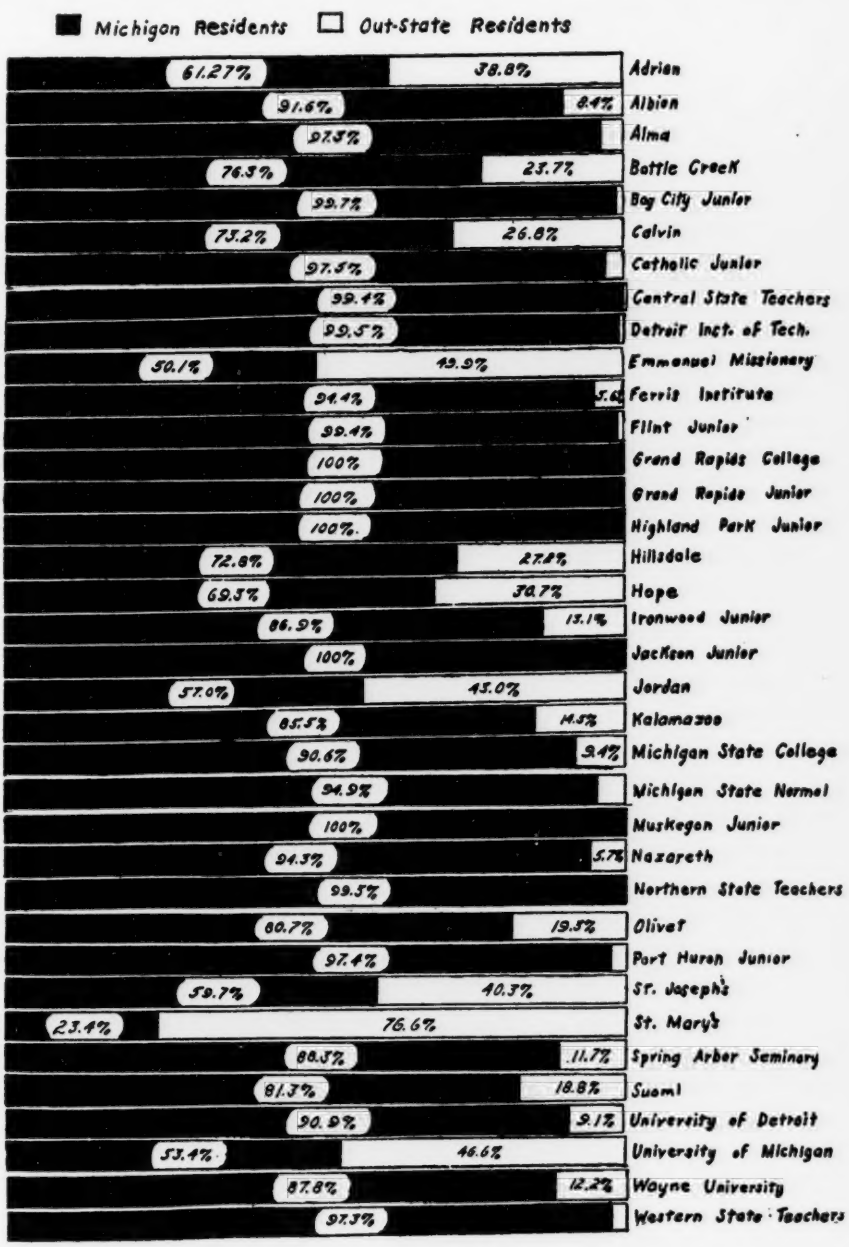
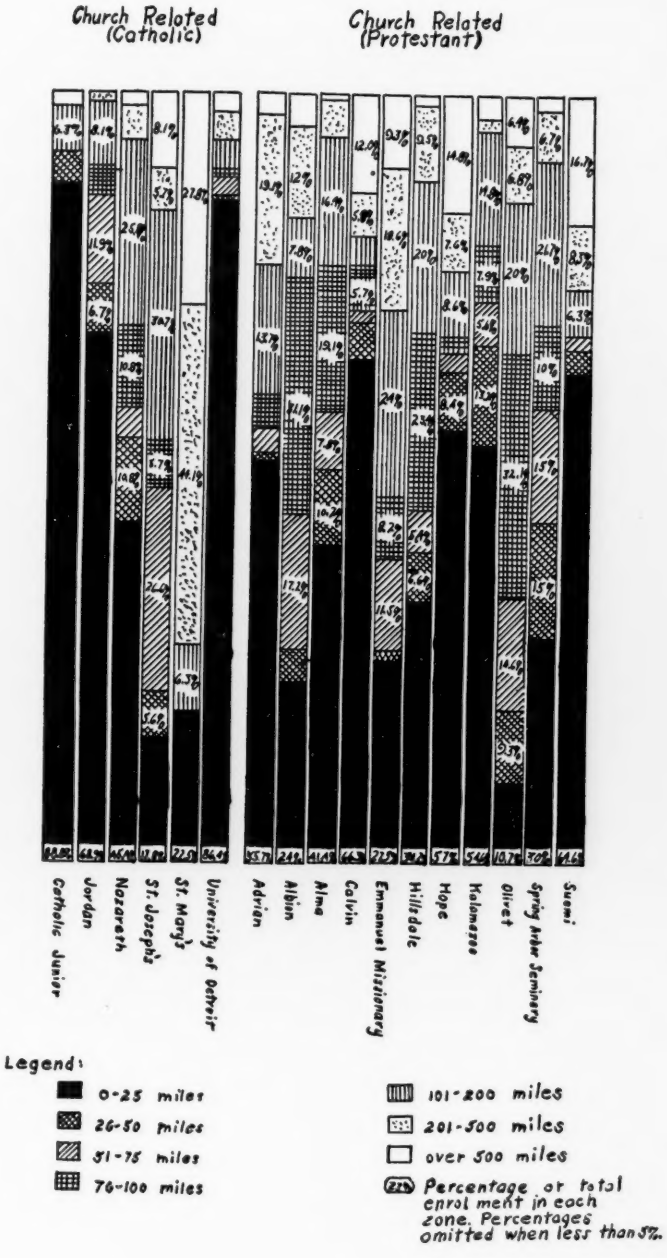


FIG. 2. In-State and Out-State Enrolment.

TABLE 2. IN-STATE AND OUT-STATE ENROLMENT

Name of Institution	Total		Men		Women	
	In-State	Out-State	In-State	Out-State	In-State	Out-State
Adrian	112(61.2%)	71(38.8%)	68(58.1%)	49(41.9%)	44(66.7%)	22(33.3%)
Albion	633(91.6%)	58(8.4%)	364(91.0%)	36(9.0%)	269(92.4%)	22(7.6%)
Alma	249(97.3%)	7(2.7%)	153(96.8%)	5(3.2%)	96(98.0%)	2(2.0%)
Battle Creek	287(76.3%)	89(23.7%)	75(81.5%)	17(18.5%)	212(74.6%)	72(25.4%)
Bay City Junior	347(99.7%)	1(0.3%)	209(100%)	0(0.0%)	138(99.2%)	1(0.3%)
Calvin	298(73.2%)	109(26.8%)	192(74.7%)	65(25.3%)	106(70.7%)	44(29.3%)
Catholic Junior	78(97.5%)	2(2.5%)	27(100%)	0(0.0%)	51(96.2%)	2(3.8%)
Central State Teachers	825(99.4%)	5(0.6%)	345(99.4%)	2(0.6%)	480(99.4%)	3(0.6%)
Detroit Inst. of Tech.	211(99.5%)	1(0.5%)	211(99.5%)	1(0.5%)	0(0.0%)	0(0.0%)
Immanuel Missionary	226(50.1%)	225(49.9%)	107(46.7%)	122(53.3%)	119(53.6%)	103(46.4%)
Ferris Institute	51(94.4%)	3(5.6%)	35(94.6%)	2(5.4%)	16(94.1%)	1(5.9%)
Flint Junior	314(99.4%)	2(0.6%)	155(100%)	0(0.0%)	159(98.8%)	2(1.2%)
Grand Rapids College	35(100%)	0(0.0%)	18(51.4%)	0(0.0%)	17(48.6%)	0(0.0%)
Grand Rapids Junior	142(100%)	0(0.0%)	59(100%)	0(0.0%)	83(100%)	0(0.0%)
Highland Park Junior	197(100%)	0(0.0%)	96(100%)	0(0.0%)	101(100%)	0(0.0%)
Hillsdale	230(72.8%)	86(27.2%)	132(77.6%)	38(22.4%)	98(67.1%)	48(32.9%)
Hope	337(69.3%)	149(30.7%)	211(69.2%)	94(30.8%)	126(69.6%)	55(30.4%)
Ironwood Junior	193(86.9%)	29(13.1%)	110(82.7%)	23(17.3%)	83(93.3%)	6(6.7%)
Jackson Junior	236(100%)	0(0.0%)	157(100%)	0(0.0%)	79(100%)	0(0.0%)
Jordan	77(57.0%)	58(43.0%)	53(58.9%)	37(41.1%)	24(53.3%)	21(46.7%)
Kalamazoo	260(85.5%)	44(14.5%)	152(86.4%)	24(13.6%)	108(84.4%)	20(15.6%)
Michigan State College	1295(90.6%)	134(9.4%)	724(87.4%)	104(12.6%)	571(95.0%)	30(5.0%)
Michigan State Normal	1465(94.9%)	79(5.1%)	530(91.1%)	52(8.9%)	935(97.2%)	27(2.8%)
Muskegon Junior	250(100%)	0(0.0%)	145(58.0%)	0(0.0%)	105(42.0%)	0(0.0%)
Nazareth	183(94.3%)	11(5.7%)	0(0.0%)	0(0.0%)	183(94.3%)	11(5.7%)
Northern State Teachers	572(99.3%)	4(0.7%)	269(99.6%)	1(0.4%)	303(99.0%)	3(1.0%)
Olivet	226(80.7%)	54(19.3%)	121(79.6%)	31(20.4%)	105(82.0%)	23(18.0%)
Port Huron Junior	151(97.4%)	4(2.6%)	87(97.8%)	2(2.2%)	64(97.0%)	2(3.0%)
St. Joseph's	74(59.7%)	50(40.3%)	0(0.0%)	0(0.0%)	74(59.7%)	50(40.3%)
St. Mary's	26(23.4%)	85(76.6%)	26(23.4%)	85(76.6%)	0(0.0%)	0(0.0%)
Spring Arbor Seminary	53(88.3%)	7(11.7%)	29(85.3%)	5(14.7%)	24(92.3%)	2(7.7%)
Suomi	39(81.2%)	9(18.8%)	20(90.9%)	2(9.1%)	19(73.1%)	7(26.9%)
University of Detroit	409(90.9%)	41(9.1%)	332(89.5%)	39(10.5%)	77(97.5%)	2(2.5%)
University of Michigan	2499(53.4%)	2185(46.6%)	1453(49.7%)	1471(50.3%)	1046(59.4%)	714(40.6%)
Wayne University	4945(87.8%)	686(12.2%)	2593(89.3%)	312(10.7%)	2352(86.3%)	374(13.7%)
Western State Teachers	1751(97.3%)	48(2.7%)	896(97.1%)	27(2.9%)	855(97.6%)	21(2.4%)
Totals	19276(81.6%)	4336(18.4%)	10154(79.3%)	2646(20.7%)	9122(84.4%)	1690(15.6%)


Church Related (Catholic)
Church Related (Protestant)
Catholic Junior
Jordan
Nazareth
St. Joseph's
St. Mary's
University of Detroit
Adrian
Albion
Alma
Calvin
Emmanuel Missionary
Hillsdale
Hope
Kalamazoo
Olivet
Spring Arbor Seminary
Suomi
Legend:
0-25 miles
26-50 miles
51-75 miles
76-100 miles
101-200 miles
201-500 miles
over 500 miles
Percentage of total enrolment in each zone. Percentages omitted when less than 5%.

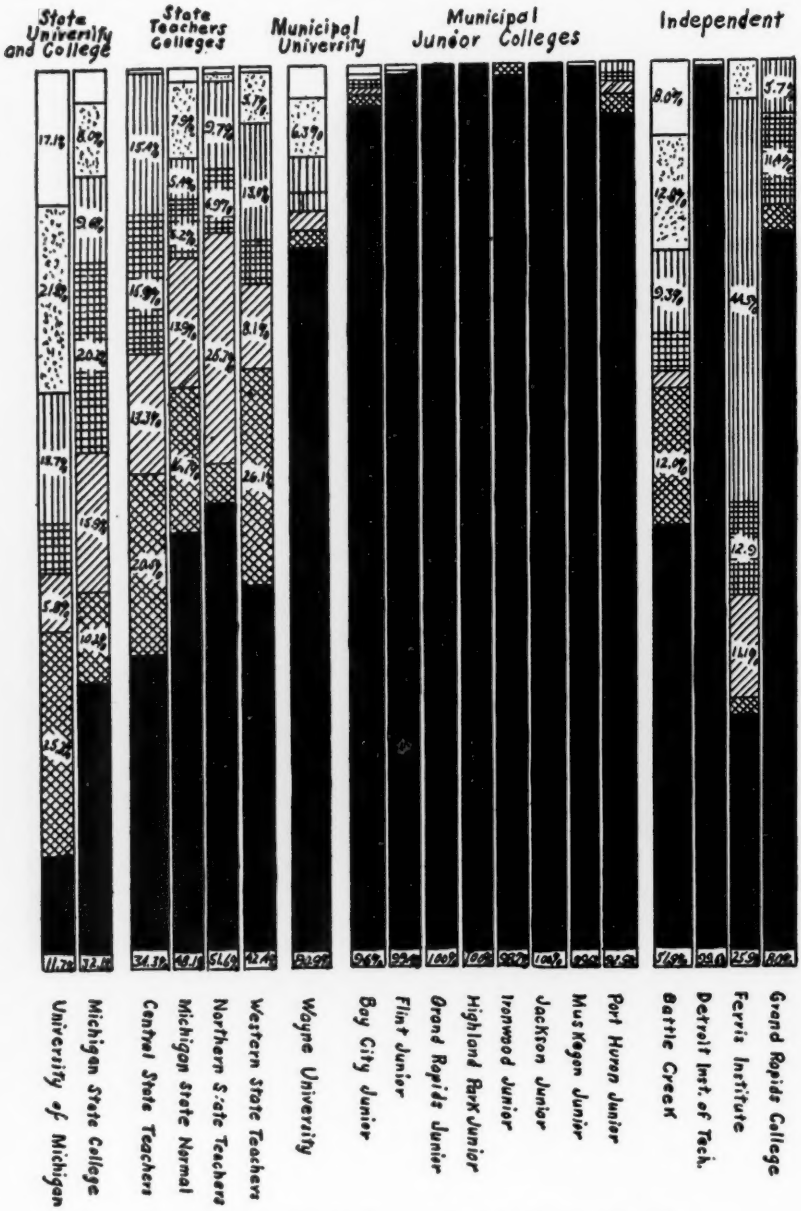


FIG. 3. Distribution by Zones for the Thirty-six Colleges.

IN-STATE AND OUT-STATE ENROLMENT (See Figure 2 and Table 2.)

Of the 23,612 students included in the study, a total of 19,276 or 81.6 per cent are residents of Michigan, while only 4,336 or 18.4 per cent, reside outside the state. The individual institutions vary greatly in this regard. Of the state institutions, only the University of Michigan shows a significant proportion. One college has the maximum of 76.6 per cent out-state enrolment, while four colleges have no liberal arts students from without the state. Variations in the percentages of out-state students can be fully interpreted only in the light of the individual cases. Such items as contiguousness to state boundary lines, religious affiliations and institutional patterns are decisive factors.

ENROLMENT ACCORDING TO ZONES

Figure 3 shows the distribution of students according to seven zones, which represent the distance from the college campus to the student's home. These zones were established on a separate map for each college by describing a series of circles at 25 miles, 50 miles, 75 miles, etc., about the campus of each institution. After these maps were prepared the residence of a student could be easily located in its proper zone. For convenience in identifying likenesses or differences among colleges of a particular administrative type, the colleges are arranged according to the same six classifications that were used earlier in the report.

The seven zones are as follows:

Zone I.	Not more than 25 miles
Zone II.	26-50 miles
Zone III.	51-75 miles
Zone IV.	76-100 miles
Zone V.	101-200 miles
Zone VI.	201-500 miles
Zone VII.	Over 500 miles

Figures 4, 5 and 6 present the same data as Figure 3 in condensed form. (See also Tables 3, 4 and 5.) Their significance may be summarized as follows:

1. Stated cumulatively, of the 23,612 students in all institutions,

50.9 per cent of them reside within 25 miles of the campus
62.2 per cent reside within 50 miles
68.9 per cent reside within 75 miles
75.6 per cent reside within 100 miles

Distribution by Zones

Fig. 4. Thirty Six Institutions

Fig. 5. Municipal Colleges and Universities

Fig. 6. Institutions other than Municipal

TABLE 3. DISTRIBUTION OF ENROLMENT BY ZONES (for all students)

Name of Institution	Total Number of Students	Number of Students Residing in Each Zone						
		25 Miles or less	50 Miles or less	75 Miles or less	100 Miles or less	200 Miles or less	500 Miles or less	Over 500 Miles
Adrian	183	102(55.7%)	104(56.8%)	112(61.2%)	119(65.0%)	144(78.7%)	179(97.8%)	4(2.2%)
Albion	691	166(24.0%)	198(28.6%)	317(45.8%)	532(76.9%)	586(84.7%)	669(96.7%)	22(3.3%)
Alma	256	106(41.4%)	132(51.6%)	152(59.4%)	201(78.5%)	243(94.9%)	255(99.6%)	1(0.4%)
Battle Creek	376	195(51.9%)	240(63.9%)	248(66.0%)	263(70.0%)	298(79.3%)	346(92.0%)	30(8.0%)
Bay City Junior	348	334(96.0%)	340(97.7%)	341(98.0%)	344(98.9%)	345(99.2%)	348(100%)	0(0.0%)
Calvin	407	270(66.3%)	290(71.2%)	296(72.7%)	319(78.4%)	334(82.1%)	358(88.0%)	49(12.0%)
Catholic Junior	80	71(88.8%)	74(92.6%)	74(92.6%)	74(92.6%)	79(98.8%)	79(98.8%)	1(1.2%)
Central State Teachers	830	285(34.3%)	455(54.8%)	565(68.1%)	697(84.0%)	825(99.4%)	830(100%)	0(0.0%)
Detroit Inst. of Tech.	212	211(99.5%)	212(100%)	212(100%)	212(100%)	212(100%)	212(100%)	0(0.0%)
Emmanuel Missionary	451	123(27.3%)	128(28.4%)	180(39.9%)	217(48.1%)	325(72.1%)	409(90.7%)	42(9.3%)
Ferris Institute	54	14(25.9%)	15(27.8%)	21(38.9%)	28(51.7%)	28(51.7%)	52(96.3%)	2(3.7%)
Flint Junior	316	314(99.4%)	314(99.4%)	314(99.4%)	314(99.4%)	314(99.4%)	315(99.7%)	1(0.3%)
Grand Rapids College	35	28(80.0%)	29(82.9%)	29(82.9%)	33(94.3%)	35(100%)	35(100%)	0(0.0%)
Grand Rapids Junior	142	142(100%)	142(100%)	142(100%)	142(100%)	142(100%)	142(100%)	0(0.0%)
Highland Park Junior	197	197(100%)	197(100%)	197(100%)	197(100%)	197(100%)	197(100%)	0(0.0%)
Hillsdale	316	108(34.2%)	129(40.8%)	146(46.2%)	220(69.6%)	283(89.6%)	313(99.1%)	3(0.9%)
Hope	486	277(57.0%)	318(65.4%)	326(67.0%)	335(68.9%)	377(77.5%)	414(85.1%)	72(14.8%)
Ironwood Junior	222	219(98.7%)	219(98.7%)	219(98.7%)	219(98.7%)	222(100%)	222(100%)	0(0.0%)
Jackson Junior	236	236(100%)	236(100%)	236(100%)	236(100%)	236(100%)	236(100%)	0(0.0%)
Jordan	135	93(68.9%)	102(75.6%)	118(87.5%)	123(91.2%)	134(99.3%)	135(100%)	0(0.0%)
Kalamazoo	304	166(54.6%)	206(67.8%)	223(73.4%)	247(81.3%)	292(96.1%)	297(97.7%)	7(2.3%)
Michigan State College	1429	459(32.1%)	605(42.3%)	832(58.2%)	1120(78.3%)	1257(87.9%)	1371(95.9%)	58(4.1%)
Michigan State Normal	1544	742(48.1%)	1000(64.8%)	1214(78.7%)	1310(84.9%)	1394(90.3%)	1516(98.2%)	28(1.8%)
Muskegon Junior	250	249(99.6%)	250(100%)	250(100%)	250(100%)	250(100%)	250(100%)	0(0.0%)
Nazareth	194	88(45.4%)	109(56.2%)	115(59.3%)	136(70.1%)	186(95.8%)	192(98.9%)	2(1.1%)
Northern State Teachers	576	297(51.6%)	324(56.3%)	472(81.9%)	512(88.9%)	568(98.6%)	575(99.8%)	1(0.2%)
Olivet	280	30(10.7%)	56(20.0%)	97(34.6%)	187(66.7%)	243(86.7%)	262(93.5%)	18(6.5%)
Port Huron Junior	155	144(92.9%)	149(96.1%)	151(97.4%)	151(97.4%)	151(97.4%)	153(98.7%)	2(1.3%)
St. Joseph's	124	22(17.8%)	29(23.4%)	62(50.0%)	69(55.7%)	107(86.4%)	114(92.0%)	10(8.0%)
St. Mary's	111	25(22.5%)	25(22.5%)	25(22.5%)	25(22.5%)	32(28.8%)	81(73.0%)	30(27.0%)
Spring Arbor Seminary	60	18(30.0%)	27(45.0%)	36(60.0%)	42(70.0%)	55(91.7%)	59(98.3%)	1(1.7%)
Suomi	48	31(64.6%)	32(66.7%)	33(68.8%)	33(68.8%)	36(75.1%)	40(83.3%)	8(16.7%)
University of Detroit	450	389(86.4%)	391(86.8%)	403(89.5%)	406(90.2%)	424(94.2%)	440(97.8%)	10(2.2%)
University of Michigan	4684	550(11.7%)	1731(36.9%)	2004(42.7%)	2227(47.5%)	2867(61.2%)	3887(83.0%)	797(17.0%)
Wayne University	5631	4558(80.9%)	4636(82.3%)	4720(83.8%)	4845(86.0%)	5069(90.0%)	5421(96.3%)	210(3.7%)
Western State Teachers	1799	762(42.4%)	1232(68.5%)	1377(76.6%)	1458(81.1%)	1692(94.1%)	1794(99.7%)	5(0.3%)
Totals	23612	12021(50.9%)	14676(62.2%)	16259(68.9%)	17843(75.6%)	19982(84.7%)	22198(94.0%)	1414(6.0%)

TABLE 4. DISTRIBUTION OF ENROLMENT BY ZONES (for men)

Name of Institution	Total Number of Men	Number of Students Residing in Each Zone						
		25 Miles or less	50 Miles or less	75 Miles or less	100 Miles or less	200 Miles or less	500 Miles or less	Over 500 Miles
Adrian	117(63.9%)	65(55.6%)	66(56.5%)	70(59.9%)	73(62.5%)	86(73.6%)	113(96.7%)	4(3.3%)
Albion	400(57.9%)	100(25.0%)	119(29.8%)	184(46.1%)	307(76.9%)	335(83.9%)	387(96.9%)	13(3.3%)
Alma	158(61.7%)	61(38.6%)	82(51.9%)	96(60.8%)	122(77.3%)	149(94.4%)	157(99.4%)	1(.6%)
Battle Creek	92(24.5%)	66(77.1%)	69(75.0%)	70(76.1%)	73(79.4%)	77(83.7%)	87(94.6%)	5(5.4%)
Bay City Junior	209(60.0%)	199(95.2%)	202(96.6%)	203(97.1%)	206(98.5%)	207(99.0%)	209(100%)	0(0.0%)
Calvin	257(63.1%)	180(70.0%)	186(72.3%)	190(73.9%)	206(80.1%)	214(83.2%)	224(87.2%)	33(12.8%)
Catholic Junior	27(33.8%)	26(96.3%)	26(96.3%)	26(96.3%)	26(96.3%)	27(100%)	27(100%)	0(0.0%)
Central State Teachers	347(41.8%)	111(32.0%)	177(51.0%)	223(64.3%)	279(80.4%)	345(99.4%)	347(100%)	0(0.0%)
Detroit Inst. of Tech.	212(100%)	211(99.5%)	212(100%)	212(100%)	212(100%)	212(100%)	212(100%)	0(0.0%)
Emmanuel Missionary	229(50.8%)	59(25.8%)	61(26.7%)	86(37.5%)	103(44.9%)	151(66.3%)	198(86.9%)	30(13.1%)
Ferris Institute	37(68.5%)	9(24.3%)	10(27.0%)	14(37.8%)	20(54.0%)	36(97.3%)	36(97.3%)	1(2.7%)
Flint Junior	155(49.1%)	155(100%)	155(100%)	155(100%)	155(100%)	155(100%)	155(100%)	0(0.0%)
Grand Rapids College	18(51.4%)	13(72.2%)	14(77.8%)	14(77.8%)	17(94.4%)	18(100%)	18(100%)	0(0.0%)
Grand Rapids Junior	59(41.5%)	59(100%)	59(100%)	59(100%)	59(100%)	59(100%)	59(100%)	0(0.0%)
Highland Park Junior	96(48.7%)	96(100%)	96(100%)	96(100%)	96(100%)	96(100%)	96(100%)	0(0.0%)
Hillsdale	170(46.2%)	59(34.7%)	70(41.2%)	78(45.9%)	119(70.0%)	150(88.2%)	170(100%)	0(0.0%)
Hope	305(62.8%)	175(57.4%)	200(65.6%)	204(66.9%)	209(68.5%)	236(77.4%)	258(84.6%)	47(15.4%)
Ironwood Junior	133(59.9%)	131(98.5%)	131(98.5%)	131(98.5%)	131(98.5%)	133(100%)	133(100%)	0(0.0%)
Jackson Junior	157(66.5%)	157(100%)	157(100%)	157(100%)	157(100%)	157(100%)	157(100%)	0(0.0%)
Jordan	90(66.7%)	53(58.9%)	59(65.6%)	75(83.4%)	78(86.7%)	89(98.9%)	90(100%)	0(0.0%)
Kalamazoo	176(57.9%)	93(52.8%)	119(67.6%)	126(71.6%)	140(79.6%)	168(95.5%)	172(97.7%)	4(2.3%)
Michigan State College	828(57.9%)	221(26.7%)	302(36.5%)	420(50.8%)	608(73.5%)	696(84.1%)	787(95.0%)	41(5.0%)
Michigan State Normal	582(37.7%)	324(55.7%)	392(67.4%)	449(77.2%)	486(83.5%)	509(87.4%)	563(96.7%)	19(3.3%)
Muskegon Junior	145(58.0%)	144(99.3%)	145(100%)	145(100%)	145(100%)	145(100%)	145(100%)	0(0.0%)
Nazareth	0(0.0%)	0(0.0%)	0(0.0%)	0(.0%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)
Northern State Teachers	270(46.9%)	162(60.0%)	173(64.1%)	227(84.1%)	248(91.9%)	265(98.2%)	270(100%)	0(0.0%)
Olivet	152(54.3%)	15(9.9%)	29(19.1%)	50(32.9%)	98(64.5%)	133(87.5%)	144(94.7%)	8(5.3%)
Port Huron Junior	89(57.4%)	82(92.2%)	85(95.6%)	87(97.8%)	87(97.8%)	87(97.8%)	87(97.8%)	2(2.2%)
St. Joseph's	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)
St. Mary's	111(100%)	25(22.5%)	25(22.5%)	25(22.5%)	25(22.5%)	32(28.8%)	81(73.0%)	30(27.0%)
Spring Arbor Seminary	34(56.7%)	10(29.4%)	14(41.2%)	19(55.9%)	23(67.7%)	31(91.2%)	33(97.1%)	1(2.9%)
Suomi	22(45.8%)	15(68.2%)	15(68.2%)	15(68.2%)	15(68.2%)	18(81.8%)	19(86.4%)	3(13.6%)
University of Detroit	371(82.4%)	312(84.1%)	314(84.6%)	326(87.8%)	329(88.6%)	347(93.5%)	362(97.6%)	9(2.4%)
University of Michigan	2924(62.4%)	308(10.5%)	999(34.1%)	1158(39.6%)	1283(43.9%)	1684(57.6%)	2353(80.5%)	571(19.5%)
Wayne University	2905(51.6%)	2468(85.0%)	2495(85.9%)	2526(87.0%)	2558(88.1%)	2646(91.1%)	2810(96.7%)	95(3.3%)
Western State	923(54.6%)	409(44.3%)	599(64.9%)	679(73.6%)	719(77.9%)	864(93.6%)	922(99.9%)	1(1.1%)
Totals	12800(54.3%)	6573(51.3%)	7857(61.3%)	8595(67.1%)	9412(73.5%)	10558(82.5%)	11882(92.8%)	918(7.2%)

TABLE 5. DISTRIBUTION OF ENROLMENT BY ZONES (for women)

Name of Institution	Total Number of Women	Number of Students Residing in Each Zone						
		25 Miles or less	50 Miles or less	75 Miles or less	100 Miles or less	200 Miles or less	500 Miles or less	Over 500 Miles
Adrian	66(36.1%)	37(56.1%)	38(57.6%)	42(63.7%)	46(69.8%)	58(87.9%)	66(100%)	0(0.0%)
Albion	291(42.1%)	66(22.7%)	79(27.2%)	133(45.8%)	225(77.4%)	251(86.3%)	282(97.0%)	9(3.0%)
Alma	98(38.3%)	45(45.9%)	50(51.0%)	56(57.1%)	79(80.6%)	94(95.9%)	98(100%)	0(0.0%)
Battle Creek	284(75.5%)	129(45.4%)	171(60.2%)	178(62.7%)	190(66.9%)	221(77.8%)	259(91.2%)	25(8.8%)
Bay City Junior	139(39.9%)	135(97.1%)	138(99.3%)	138(99.3%)	138(99.3%)	138(99.3%)	139(100%)	0(0.0%)
Calvin	150(36.9%)	90(60.0%)	104(69.3%)	106(70.6%)	113(75.3%)	120(80.0%)	134(89.3%)	16(10.7%)
Catholic Junior	53(66.3%)	45(84.9%)	48(90.6%)	48(90.6%)	48(90.6%)	52(98.1%)	52(98.1%)	1(1.9%)
Central State Teachers	483(58.2%)	174(36.0%)	278(57.5%)	342(70.8%)	418(86.5%)	480(99.3%)	483(100%)	0(0.0%)
Detroit Inst. of Tech	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%
Emmanuel Missionary	222(49.2%)	64(28.8%)	67(30.2%)	94(42.4%)	114(51.4%)	173(78.0%)	210(94.7%)	12(5.3%)
Ferris Institute	17(31.5%)	5(29.4%)	5(29.4%)	7(41.2%)	8(47.1%)	16(94.1%)	16(94.1%)	1(5.9%)
Flint Junior	161(51.0%)	159(98.8%)	159(98.8%)	159(98.8%)	159(98.8%)	159(98.8%)	160(99.4%)	1(0.6%)
Grand Rapids College	17(48.6%)	15(88.2%)	15(88.2%)	15(88.2%)	16(94.1%)	17(100%)	17(100%)	0(0.0%)
Grand Rapids Junior	83(58.5%)	83(100%)	83(100%)	83(100%)	83(100%)	83(100%)	83(100%)	0(0.0%)
Highland Park Junior	101(51.3%)	101(100%)	101(100%)	101(100%)	101(100%)	101(100%)	101(100%)	0(0.0%)
Hillsdale	146(53.8%)	49(33.6%)	59(40.4%)	68(46.6%)	101(69.2%)	133(91.2%)	143(97.9%)	3(2.1%)
Hope	181(37.2%)	102(56.4%)	118(56.2%)	122(67.4%)	126(69.6%)	141(77.9%)	156(86.2%)	25(13.8%)
Ironwood Junior	89(40.1%)	88(98.9%)	88(98.9%)	88(98.9%)	88(98.9%)	89(100%)	89(100%)	0(0.0%)
Jackson Junior	79(33.5%)	79(100%)	79(100%)	79(100%)	79(100%)	79(100%)	79(100%)	0(0.0%)
Jordan	45(33.3%)	40(88.9%)	43(95.6%)	43(95.6%)	45(100%)	45(100%)	45(100%)	0(0.0%)
Kalamazoo	128(42.1%)	73(57.0%)	87(67.9%)	97(75.7%)	107(83.5%)	124(96.8%)	125(97.7%)	3(2.3%)
Michigan State College	601(42.1%)	238(39.6%)	303(50.4%)	412(68.5%)	512(85.1%)	561(93.2%)	584(97.0%)	17(3.0%)
Michigan State Normal	962(62.3%)	418(43.5%)	608(63.3%)	765(79.6%)	824(85.7%)	885(92.0%)	953(99.1%)	9(0.9%)
Muskegon Junior	105(42.0%)	105(100%)	105(100%)	105(100%)	105(100%)	105(100%)	105(100%)	0(0.0%)
Nazareth	194(100%)	88(45.4%)	109(56.2%)	115(59.3%)	136(70.1%)	186(95.9%)	192(99.0%)	2(1.0%)
Northern State Teachers	306(53.1%)	135(44.1%)	151(49.3%)	245(80.0%)	264(86.2%)	303(98.9%)	305(99.7%)	1(0.3%)
Olivet	128(45.7%)	15(11.7%)	27(21.1%)	47(36.7%)	89(69.5%)	110(85.9%)	118(92.2%)	10(7.8%)
Port Huron Junior	66(42.6%)	62(94.0%)	64(97.0%)	64(97.0%)	64(97.0%)	64(97.0%)	66(100%)	0(0.0%)
St. Joseph's	124(100%)	22(17.8%)	29(23.4%)	62(50.0%)	70(55.7%)	107(86.2%)	114(91.9%)	10(8.1%)
St. Mary's	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)	0(0.0%)
Spring Arbor Seminary	26(43.3%)	8(30.8%)	13(50.0%)	17(65.4%)	19(73.1%)	24(92.3%)	26(100%)	0(0.0%)
Suomi	26(54.2%)	16(61.5%)	17(65.4%)	18(69.3%)	18(69.3%)	18(69.3%)	21(80.8%)	5(19.2%)
University of Detroit	79(17.6%)	77(97.5%)	77(97.5%)	77(97.5%)	77(97.5%)	77(97.5%)	78(98.8%)	1(1.2%)
University of Michigan	1760(37.6%)	242(13.8%)	732(4.16%)	846(48.1%)	944(53.7%)	1183(67.3%)	1534(87.2%)	226(12.8%)
Wayne University	2726(48.4%)	2090(76.7%)	2141(78.6%)	2194(80.5%)	2287(83.9%)	2423(88.9%)	2611(95.8%)	115(4.2%)
Western State Teachers	876(45.4%)	353(40.3%)	633(72.3%)	698(79.7%)	739(84.3%)	828(94.5%)	872(99.5%)	4(0.5%)
Total	10812(45.7%)	5448(50.4%)	6819(63.1%)	7664(70.9%)	8431(78.0%)	9448(87.4%)	10316(95.4%)	496(4.6%)

84.7 per cent reside within 200 miles
94.1 per cent reside within 500 miles
5.9 per cent reside more than 500 miles from the campus

2. It is evident from both Figures 3 and 5 that the municipal junior colleges and the one municipal university have a very large local enrolment. Three of them draw no students beyond the 25-mile zone, and Wayne University, which shows the widest distribution in this group, has 80 per cent within this zone.

3. A comparison of Figures 5 and 6 shows graphically the contrast between the municipal institutions and all others. Whereas in the municipal schools less than 4 per cent are outside the local zone, all the others in the aggregate draw more than half of their enrolment from outside the local zone.

4. Among the other institutions the explanation of the variations in the pattern of distribution must be sought in terms of the multiple factors involved. Central State Teachers College, for example, draws only about one-third of its student body from a 25-mile radius, and Ferris Institute about one-fourth. A glance at Figure 1, which shows these two institutions to be farthest north of the schools in the lower peninsula, suggests, among other possible factors, a lesser density of population and a naturally wider area for the constituency.

5. It is interesting to note that the church-affiliated schools, as shown in Figure 3, show a wide variation in the pattern. Among the Protestant schools, some serve as denominational meccas, where both racial and creedal distinctiveness is stressed, and draw a significant proportion from beyond the 500-mile radius. Still others have, without such apparently strong ties, built up a clientele from the more distant zones.

6. No particular significance can be discerned from a study of Tables 3, 4 and 5, with regard to difference in geographical distribution of men and women. If the totals shown on each of the three tables are graphed, the curve of distribution for men, women, and all students run fairly parallel.

SIGNIFICANCE OF THE STUDY

1. As suggested in the introductory statement, such a report as this would have increased value in relation to follow-up studies. In the first place, it is hoped that the faculties of the various institutions may find it profitable to make similar studies for professional and

graduate students and for other groups not included in this study of liberal arts enrolment. Undoubtedly the pattern of distribution in the other divisions and departments would be a very different one from that for liberal arts students.

2. The second proposal is for a repetition of the study from time to time with a view to following any significant trends in enrolment. For only in so far as such research is actually helpful in institutional planning does it have real value. And it is believed that the revealing of trends in enrolment would help solve very important problems. One of these may be mentioned. Gradual readjustments have been taking place in the functions and programs of individual colleges. Various questions are being raised about a division of responsibility between private and tax-supported institutions, between teachers colleges and liberal arts colleges, and between municipal colleges and those serving the state at large. The administration in each institution is trying to clarify functions and to maintain the most effective position in the scheme of higher learning, but it is not always easy to evaluate the suggestions for improvement which are being made. An understanding of the trends in enrolment should be helpful in this effort to adjust to changing demands.

3. It makes a basis of comparison for other areas which should prove stimulating and helpful.

4. Institutions may find "leads" in relation to their own place in the state and regional pattern. Growing out of this study a further one is under way in Albion College. Findings so far indicate for this particular institution that the rise of the junior colleges has not had a deleterious influence on the enrolment of students from those centers. Although Albion has a slight drop during depression years in the students received from centers maintaining junior colleges, the enrolment from such centers has at no time dropped below the number received prior to the founding of the junior colleges. The question arises, then—do junior colleges furnish sufficient impetus for higher education to offset whatever drain they might cause on the enrolment of the longer established four-year colleges? Furthermore, must a saturation point be anticipated in the expansion of collegiate centers, particularly in the light of the retarded population curve?

—*Volume 14, Number 2*

EXPANDING THE COLLEGE CURRICULUM TO MEET MODERN DEMANDS

E. E. OBERHOLTZER

COLLEGE education in former years was not subject to much criticism. In those times such education was restricted to the privileged few. In recent years college authorities have become aware of the fact that college education is a part of the life of the people and that it is necessary to justify college work in terms of the service which the college gives. In this respect, the college is not different from the public schools and other educational institutions.

From the standpoint of service given, the college curriculum may be evaluated on the basis of its adaptation to the needs of the group educated and to the social purposes of such education. Let us analyze to see what may be the dominant shortages of college curricula in meeting modern demands.

First, the large percentage of student failures is a definite indication of weak points somewhere in the educational system. A certain amount of failure is probably inevitable, but a mortality rate of fifty per cent seems unjustifiable in any educational system. The solution of this problem lies not in lowering standards of professional and technical schools, but in providing broader fields of training and more careful guidance through the study of individual capacities and interests. In the light of such study, students should be enrolled in those colleges, departments, and fields of training in which they have more than a fifty-fifty chance for success.

Second, college graduates are in many respects unprepared to meet modern life situations. This is one of the common criticisms lodged against graduates. Colleges have overlooked the fact that success in making passing marks or in meeting requirements for degrees does not necessarily insure success in life pursuits. Generally speaking, those who are well-informed about the relation of education to success do not question the fact that additional training and development of one's abilities do aid materially in the undertakings of life. However, too often in the business world the one with the college degree is a misfit in the work he undertakes, resulting both in discouragement to

the individual and in the establishment of bad repute for the college and its training.

In this connection, it might be well to raise the question of whether college education should be in the main specific or general. Undoubtedly, it would be agreed that the general background of culture and understanding of life situations should be a part of the college education. In definite areas, especially in preparing for the professions, special education should become a part of the well-directed program of education, after the secure foundation of general education has been provided. One criticism, of course, of the present college curriculum is that it is not well planned, leaving great undeveloped areas in a complete program of education, especially in the fields of civic and cultural pursuits. In expanding the college curriculum to meet modern demands, we must find a way to provide education for fields of public service, fitting the individual to live a life of leadership in his community and state, enabling him to cultivate and direct the appreciation of a developing culture shared by all.

Third, there has been too little scientific study and evaluation of the college curriculum. We are not prepared to tell just how far college education goes in achieving certain definite goals.

Many college curricula follow the same general traditional types that were prescribed because they were supposed to be valuable for mental discipline, such prescription being based upon false psychological assumptions. Little interest has been manifested in studying their effectiveness as a preparation for life, for vocations, or for the extension of culture. These traditional practices may cause the son to use his father's college lecture and laboratory notes and to study the quizzes and examinations which his father saved. It would be interesting in such cases to examine the records to ascertain how many professors use the same outlines and lecture notes year after year. The goals of higher education must be related to the goals of enriched living and adjusted to the needs of the individual student. The college must find a way to test more scientifically its curricula and services.

Fourth, the change in the type of student body, resulting from increasing enrolments with widely varied abilities and interests of students, has been the cause of many new problems for the college planner. Most students entering college take the same courses which have been taken by other college freshmen for many, many years in

the past. There is nothing fundamentally wrong in having all college students study a core curriculum which is basically the same for at least the first two years, if this program is appropriately planned for all. As it is, however, the freshman program seems to be planned primarily as a prerequisite to technical and professional courses which follow, and as such they are neither liberal courses of high cultural value nor are they courses best suited for fitting the student to cope with the problems of modern life. Mathematics, sciences, foreign languages, social studies, and likewise English, are given as training courses in preparation for other courses to follow. One large university, in analyzing its enrolment, has discovered that the median number of courses per student in each department is one, meaning that half the students take but one course in a department in preparation for other courses to follow, or for purposes of meeting credit requirements.

With the engineering and professional schools dominating college curricula, the liberal arts college has made little progress in its own name. The present movement in curriculum revision, as exemplified in Minnesota, Chicago, Bucknell, Stephens College for Women, and about a score of others, indicates a refreshing break from the ties of tradition and domination of professional schools. On the basis either of logic or of cultural value, it is rather difficult to justify many of the courses taught in the liberal arts division. On the same basis, many of the courses in engineering divisions could likewise be criticized. Quoting from Raymond A. Kent's *Higher Education in America:**

> An examination of the criticisms of engineering education made by engineers and industrialists throws light on the problem of objectives. The point most frequently and strongly commented upon is that of the failure to master fundamental scientific principles with sufficient thoroughness. Second is the frequent failure to acquire fluency in written and spoken English. Third is an inadequate breadth of view and vigor of imagination. Deficiencies of special knowledge or technique are infrequently emphasized.

How many college engineering curricula stress fluency in written and spoken English, which is listed as the second most important objective by engineers and industrialists? How many provide opportunities for the development of imagination and breadth of point of

* Kent, Raymond A., *Higher Education in America,* Ginn and Co., Boston, 1930, 209.

view? How many stress the factual knowledge and pertinent techniques which the practicing engineer must use in his actual field of service?

It is hoped that the foregoing statements will stimulate critical examination and remedial action toward the solution of the multiplicity of problems which challenge authorities planning college curriculum revision. Based upon this philosophy of service and social need, the University of Houston was organized only three years ago, succeeding and incorporating within it the Houston Junior College, which had been in operation during the seven previous years. The University is actively beginning to embody these objectives in its work by means of the following colleges or departments: the Junior College, including a General College with an experimental curriculum, the College of Arts and Sciences, and the College of Community Service.

One of the first steps in the program of the University of Houston was the organization of the General College. The chief criterion around which the curriculum for this school was built is that students shall have an opportunity to become more intelligent about the world in which they are now living. This college includes in reorganized form the first two years of college work. The curriculum is organized in four divisions, namely, social sciences, physical sciences, biological sciences, and the cultural arts. Each student pursues a two-year continuous program in the field of social science and cultural arts, and one year in physical science and biological science. Beyond this the program is elective. In so far as is possible, the courses are organized around modern and current problems, utilizing the historical background as a background and not as the foreground. Through seminar discussions in all courses, students are permitted more freedom and given greater opportunity for discussion and participation. It is the intent of the General College that every student who follows this program will be able to think more clearly as an intelligent citizen about current social, economic, and political problems, because he has been given an opportunity to think about them and discuss them in college; that he will have a greater appreciation of the arts, because this phase of his training is not being neglected. It is felt, furthermore, that this training, designed to prepare students for active participation in the civic and cultural life of the community, is also good preliminary training for the professions or other life pursuits.

It is very much regretted, indeed, that students who desire to transfer later to engineering institutions must change from this enriched program. They must change because there is prescribed for the engineer mathematics, chemistry, physics, and mechanical drawing—a little more of the same courses the second year, and so on for four years of college work. How sad it is to think that a man engaged for four years in the study of the mere techniques of a vocation should be doomed to a life of isolation because in his professional college courses he was not prepared to participate in the civic and cultural life of his community or nation.

The most important expansion of the curriculum of the University of Houston lies in the field of community service. Colleges and college men in older and more established communities who do not know the conditions existing in Houston and much of the South may not appreciate this problem without having some of its setting described. Houston is a new and rapidly growing city, doubling its population every ten years. It is located in a state where distances are great. It now has a population of more than 350,000 people. At present there are no provisions for training the industrial and business workers of the city. The University of Houston has developed entirely as the result of an expressed need. Houston operates entirely on its income from tuition and fees. Seventy-five per cent of its students are employed full time in the businesses and industries of the city.

For adult students who are employed and who have personally seen the need for furthering training, it is not possible to operate a college on the traditional plan of college administration. Observing the need for cultural advancement and training in civic participation, it is also urgent that these students be given an opportunity to study for improvement in their chosen walks of life. The University of Houston authorities believe that the college curriculum should be made sufficiently broad to meet the demands for training in the community in which it is located. In organizing a course for employed adult students, the instructor must himself develop a point of view different from that of the traditional college teacher, whether the course be one in geology, geophysics, metallurgy for tool workers, oil map drawing, machine design, or salesmanship. Whatever the course may be, it must be vital and up to date before students will voluntarily choose and pay the cost of such instruction.

To expand the college curriculum to meet the needs of its adult

citizens is in itself a hard task, yet added to these difficulties occur many times the regulations of college registration and prerequisite courses. In fact, such regulations are the chief handicap and stumbling block that hinder the development of a program of great breadth.

Colleges, influenced by the traditional American college system, follow too closely the steps of regimentation without proper regard for the needs of modern society. In general, the American college system seems to cling to the assumption that a worthwhile college education must begin with foreign language, mathematics, science, English, and history, and must follow with prescribed courses laid out in accordance with a philosophy of education based upon cloistered living. (This statement is made for its factual value and not as a criticism.) When a forty-five-year-old man enters college to receive training provided by a course in foreign trade—which, let us say, is a senior course—he pursues this course, makes better marks, and learns more than the younger college student, yet he must still be denied college credit for this work because he has not had freshman physics or freshman algebra and other prerequisites to senior standing. This is only one example of the many difficulties which stand in the way of opening the doors of the colleges to adult citizens of the community. These adult students want such credit to serve as recognition of their work, even though they may never want a degree. Such a desire for social recognition is still a highly emotionalized motive for a student, even though he has entered at a late age to achieve an education in this new "college society."

Thus, in expanding the college curriculum in a world which should be looking forward, but with eyes turned backward toward the shrine of college tradition, the college administrator must somehow find and establish a new frame of reference, so to speak, for social perspective and a new ideal of service. Given this viewpoint, the college curriculum must be reorganized and expanded to meet society's new demands and to save a new evolving and developing civilization. For such is the inevitable way that true progress in living must come.

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THE USE OF NON-LINEAR CORRELATION IN DETERMINING PREDICTIVE MEASURES OF COLLEGE SUCCESS

FRANK L. MANNING

THE USUAL correlation analysis is based on the assumption that the relationship between two variables is linear. If partial correlation is used, the assumption is that the relationship is the same no matter at what level the third variable is held constant. In an attempt to predict success in course work in a liberal arts college from two standard tests given to entering freshmen, a condition was found to exist that was quite different from either of these assumptions.

Curvilinear relationships are often found and recognized by investigators, but when not recognized may lead to erroneous conclu-

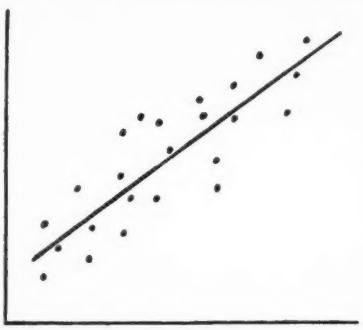

FIG. 1

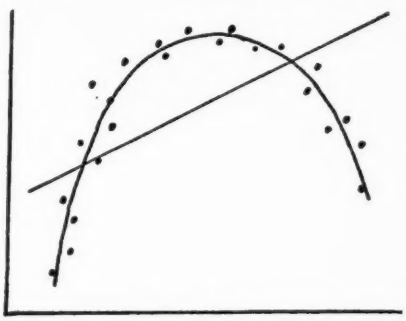

FIG. 2

sions. This can be illustrated by the following hypothetical case. The linear co-efficient of correlation in Figure 1 would be less than Figure 2 because of the closer grouping of the items about the straight lines of best fit. But if a curve is fitted to the dots in Figure 2 the residuals will be less than about the straight line in Figure 1. If a parabolic prediction equation is used for the data in Figure 2, the predictions will be better than if a linear prediction formula is used for Figure 1.

The curvilinear and joint relationships between two standard tests and college grades were found and recognized by a graphical method requiring relatively little numerical computation.

Starting with the numerical values of the three variables tabulated in parallel columns a large sheet of graph paper was used to make a two-way dot diagram of the two independent variables. For example, in two standard tests to be used in predicting first semester grades the range for one test can extend horizontally and the other vertically. If there are but a few extreme items, the end classes can be left open. The means of all items in such open classes should be computed separately. The grade of each individual should be written beside the dot with a fine pen. After this is done, each direction can be divided into a suitable number of classes. It is desirable to have as many classes as possible but yet have enough in the smallest class to have a relatively small probable error of the mean of the grades in

TABLE 1

		Mean First Semester College Grades in Relation to Psychological and English Test Scores					
		A.C.E. Psychological Test Scores					
		Below 140	140–177	178–216	217–254	255–293	Above 293
Cooperative English Test Scores	Above 205			82	84	86	90
	190–205		78	78	83	85	88
	174–189		78	79	82	83	84
	158–173	68	77	78	79	86	85
	142–157	70	77	75	76		
	Below 142	70	72	73	75		

that class. The grades in each class are to be averaged and written along with the number of items in each box of a two-way frequency table. The average of the grades should be the most prominent number (being written in ink or in color or in larger figures).

Now the investigator may visualize the two-way frequency table as a three-dimensional surface, the mean grade of each class representing the height of the surface above the base plane. He may start smoothing in two directions at once, taking out any dips or humps in the surface. The least amount of adjusting should be done in the classes having the highest frequencies.

If freehand smoothing seems too crude, a curve can be fitted (by least squares or by any other method) to the means in each column or row, using the frequencies as weights. These equations can be combined to obtain the regression equation of the curved surface. The

amount of labor required to do this is considerable. The investigator must decide whether the accuracy of the original figures, the probable error of the prediction and the use to which the results will be put justify the labor involved in finding and using such an equation.

Freehand smoothing is much shorter and need not be grossly inaccurate if care is used. Even in least square fitting, judgment must be used in selecting a suitable type of curve to be fitted. The surface can be smoothed so that the cross sections will approach the shape of such curves.

Table 1 is a two-way table with the means of the grades obtained by the individuals whose scores on the two tests would put them in that class.

TABLE 2

RESULTS OF SMOOTHING TABLE 1 TOWARD SECOND DEGREE PARABOLAS

		Predicted Grades from Two Standard Tests					
		A.C.E. Psychological Test Scores					
		Below 140	140–177	178–216	217–254	255–293	Above 293
Cooperative English Test Scores	Above 205			81	84	87	90
	190–205		77	81	84	86	88
	174–189		77	80	83	84	85
	158–173	70	76	79	80	81	82
	142–157	70	75	76	77		
	Below 142	70	72	73	74		

The tests were given to 331 freshmen in the fall of 1936 and 1937. The surface was smoothed freehand in two directions so as to approximate second degree parabolas with first derivative positive and the second negative. Residuals from the parabolic regression surface were computed for each individual and the standard error of estimate found to be 6.1%.

Figure 3 is a graph of the three-dimensional surface shown in Table 2. It shows the relationship between two test scores and first semester grades of freshmen entering a liberal arts college in 1936 and 1937. Obviously the relationship is not linear. Of course, a regression plane ($y = a\,x_1 + b\,x_2 + c$) could be fitted to the original data, or to the means of the classes using the frequencies as weights but it is evident from Figure 3 that a plane would not be a good fit and that the residuals would be greater than from the curved surface

in Figure 3. Joint relationship is also evident from the sketch. Grades increased faster with scores in one test when the scores on the other test were high than when they were low. Indeed high scores on the English test (x_2) were not accompanied by higher grades (y) if the score on the Psychological test (x_1) was below 140; but for those in the highest class in the Psychological test an increase from 190 to 210 in the English test made the average grade jump from 85 to 90.

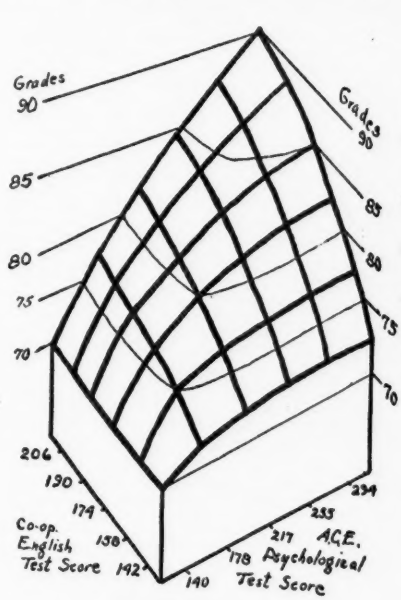

FIG. 3

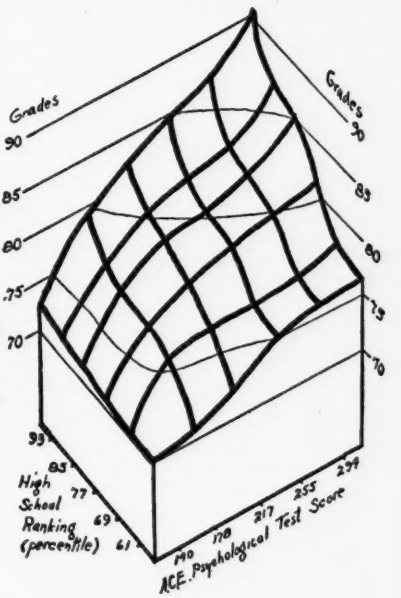

FIG. 4

Likewise for those who did best on the English test a 150 point increase in the Psychological test raised the average grade from 79 to 90, while for the lowest class in the English test an increase of 115 points in the Psychological test raised their average grade from 70 to 76 only. Due to the fact that the relationship between y and x_1 varies with x_2 and the relationship between y and x_2 varies with x_1 linear correlation is inadequate and illogical. Partial correlation between y and x_1 will give different values depending at what value the other x is held constant.

The method can be extended to include more factors. Another independent variable, percentile rank in the graduating class in high school (x_3), will be used with the Psychological test score (x_1), to

show the effect of these two on the dependent variable (y). The data from 318 freshmen entering college in 1936 and 1937 are given in Table 3, Table 4, and Figure 4. The same sort of joint relationship exists among these as was found previously among the Psychological test scores, English test scores and college grades.

The surface was more erratic and had more bumps and hollows even after smoothing, but the linear coefficient of multiple correlation was a little higher and the prediction made from the curved surface was a little better. Both of these tables can be used, two separate predictions made and the average of the two predictions used. It is easier to use them separately than to combine them. One cannot construct a simple table with four variables nor draw a four-dimensional graph.

As an illustration, suppose a candidate for admission made a score of 200 on the A.C.E. Psychological test, a score of 200 on the Co-operative English test and stood at the 90th percentile in his high school graduating class. Table 2 would show that he would be

TABLE 3

MEAN FIRST SEMESTER COLLEGE GRADES IN RELATION TO PSYCHOLOGICAL TEST SCORES AND HIGH SCHOOL RANK

PERCENTILE RANK IN GRADUATING CLASS	A.C.E. Psychological Test Scores					
	Below 140	140–177	178–216	217–254	255–293	Above 293
Above 93		84	82	85	87	91
85–93	72	77	79	81	82	86
77–84	71	77	81	80	84	88
69–76	73	77	78	82	79	82
61–68	69	78	78	73	77	
Below 61	70	71	73	76	79	

expected to make a grade of 81 in his courses during the fall semester of his freshman year, and Table 4 would indicate a grade of 80. These two predictions agree quite well so that on a basis of these measures he would be expected to obtain an average grade from 80 to 81. He might do better, and he might do more poorly. If the prediction was made from Table 2, the chances are about 4 to 1 against his getting below 75, while there is about 1 chance in 20 that he will fail, that is, average below 70. If the prediction was made from Table 4, the respective chances would be 7 to 1 and 1 in 50.

TABLE 4

RESULTS OF SMOOTHING TABLE 3 TOWARD THIRD AND FOURTH DEGREE PARABOLAS

		Predicted Grades from Psychological Test and High School Rank					
		A.C.E. Psychological Test Scores					
		Below 140	140–177	178–216	217–254	255–293	Above 293
Percentile Rank in Graduating Class	Above 93		80	82	85	87	91
	85–93	72	78	80	81	82	87
	77–84	71	77	80	80	82	87
	69–76	71	77	78	80	80	82
	61–68	70	76	76	76	77	
	Below 61	70	71	73	76	77	

SUMMARY

1. Simple and multiple correlation analysis may be inadequate and possibly misleading if the relationship is not linear and partial correlation if there exists a joint relationship.

2. This condition was found illustrated in the relationship among two standard tests, high school rank, and college grades earned during the first semester by freshmen entering a liberal arts college.

3. Graphical freehand construction of a curved surface in these cases was shorter and more accurate than least square fitting of a plane surface.

4. If the probable errors of the means of the grades in each class are small enough to warrant more accurate methods the equation of such a curved surface can be obtained.

5. Using each of the curved surfaces for predicting grades the prediction should be within 4 per cent of the actual grade received half the time; and if both surfaces are used together the prediction should be closer.

—*Volume 14, Number 2*

A METHOD OF SELECTING SCHOLARSHIP HOLDERS[1]

ALAN BRIGHT AND LAURANCE F. SHAFFER

DURING the past twenty years there has been a rapid growth in the number of agencies whose primary interest is to find scholarship aid in college for worthy students. For a longer period the colleges have recognized that there are many people in college who should not be there and that a large number of brilliant young people who should be in college do not go. Many communities have found that it is distinctly in the interests of the community to seek out the brilliant young minds and to find a means of providing a college training for them. Many church organizations, Chambers of Commerce, Rotary and Kiwanis Clubs and other service bodies are displaying a marked interest in the providing of educational opportunities for the outstanding youth of the district who lack the means of participating in a college program.

In addition to this development of interest, we have seen a marked growth in the size of funds made available for scholarship awards by the various commonwealths, foundations, college clubs, alumni bodies and by the colleges and universities. The rise in tuition rates has undoubtedly had something to do with this growth.

At the Carnegie Institute of Technology scholarships were almost unknown twenty years ago. Today, a number approximating ten per cent of the student body receive scholarships to the extent of one-half or full tuition.

This marked development is certain to continue and has already placed new problems before the college. The fact that primary and secondary educational programs are provided in America at public expense has developed the point of view that a higher training may be obtained in any institution, including those which are privately endowed, by the proper approach and by utilizing channels that have no relationship with the basic consideration of scholarship or natural ability. There are even those who conclude that poverty alone justifies a scholarship award.

[1] The first part of this paper which presents the policy in granting scholarships was read by Mr. Bright before the meeting of the Middle States Association of Collegiate Registrars. The techniques involved in the selection are discussed by Dr. Shaffer.

In administering this difficult aspect of our program, some of us have found that the scholarship considerations require as much time and effort as does the entire problem of college admissions. The plan which we have developed seems to deliver to us an outstanding group of freshmen who, in general, measure up to our expectations.

In our early experience in awarding scholarships, we soon found that graduation from high school, personal interviews or letters of recommendation did not give us information that was sufficiently definite to constitute a safe basis of award; it was found necessary to employ a general test or examination for all of the candidates within the local area. Such an examination had already been given for a number of years, and it was being used by a number of scholarship-granting agencies. This test is administered by the Allegheny County Joint Committee on Scholarship Aid. The Committee has the co-operation of the Carnegie Institute of Technology, the University of Pittsburgh, the Pennsylvania College for Women and the various civic organizations. To participate in this examination, a student must rank in the outstanding group of the various secondary schools of the county. As an aid to the Carnegie Institute of Technology, this committee has consented to allow the students from a wider area, embracing the western half of Pennsylvania, eastern Ohio and West Virginia, to participate.

The scholarships available for applicants from distant points are administered separately, as they are fewer in number.

The Allegheny County Test consists of two principal parts. The first part is a standardized general intelligence examination of a level suited to college freshmen. The particular examination used is varied from year to year in order to preserve secrecy. At various times the American Council Psychological Examination, the Ohio State University Psychological Examination and the Carnegie Mental Ability Tests have been used. The second part of the examination consists of supplementary tests of considerable difficulty which measure the student's ability to understand what he reads, to reason and to draw conclusions from statements given. This part of the test is called the "Supplementary Test" and is prepared for the Committee on Scholarship Aid by Dr. Carroll Whitmer of the University of Pittsburgh. The supplementary test also varies in content from year to year. At various times other tests have been included in the examination, such as a spacial relations test and a test of reading comprehension.

When the results of the test are graded, each candidate is given a relative position in the group so that the result is not a grade but a comparison with the other participants. For example, in a test group of 500 an individual may have a rank of 380, which indicates that he was outranked by 379 candidates, or a position of 2, which means that the candidate was outranked by only one other.

The Office of Admissions determines the high school factor for each applicant by assigning a numerical factor of 4 to each A, 3 to B, 2 to C and 1 to D. The subjects are also weighted according to the number of units of credit. Only subjects of an academic nature are included in the calculation. The average is expressed as a "high school factor," which varies from 0 (representing failure) to 4.0 for a perfect record.

The positions of all candidates for scholarships are then plotted on a graph, the abscissa for each candidate being determined by his test rating and the plotting done from right to left, that is, the highest position to the extreme right and the lowest position to the left. The ordinate is the high school factor plotted from 0 at the bottom to 4 at the top. With this plan of plotting, the position of the superior candidates will be in the upper right-hand part of the graph.

A plan for combining the two criteria—the high school record and the result from the general examination—has been devised by Dr. Laurance F. Shaffer, Associate Professor of Psychology and Education, Carnegie Institute of Technology. It is outlined in the following article:

The general features of the method used for awarding scholarships to entering freshmen at Carnegie Institute of Technology have been stated by Mr. Alan Bright in the preceding article. This supplementary article will describe and illustrate the computations employed, so that they may be reproduced by anyone skilled in statistical work. The statistical methods are for the most part standard ones and may be found in the more complete textbooks on this subject.[2]

Three variables are involved in this study, which will hereafter be referred to as (1), (2) and (3), as follows:

(1) College "Factor"—a weighted average of freshman marks, based on a scale of A = 4, B = 3, C = 2, D = 1, F = 0.

(2) High School "Factor"—a weighted average of high school marks, on the same basis as (1) above.

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[2] Holzinger, Karl J., *Statistical Methods for Students in Education,* Boston: Ginn & Co., 1928; Kelley, Truman L., *Statistical Method,* New York: Macmillan Co., 1923; Yule, G. Udny, *Theory of Statistics,* London: Griffin & Co., 1924.

FIG. 1. CHART EMPLOYED IN AWARDING SCHOLARSHIPS

This chart represents the applicants for scholarships in 1938. The test score is shown at the abscissa (across the top), and the high school factor as the ordinate (at the left). Each dot represents the standing of a candidate. The dots crossed with an "x" are the awardees originally selected. The circles represent the final awardees, some of whom were originally alternates. The heavy diagonal line graphs the equation for X_2 and X_3 when $X_1 = 3.00$, as given in the article. Applicants "northeast" of this line have an even chance or better of achieving a college factor of 3.00. The broken line is based on a college factor of 2.66, which is one Probable Error of Estimate below 3.00. It represents the lower limit for selecting alternates.

(3) Test Score—a score based on a test of general mental ability. This score has been used in two forms, as a "rank" and as a sum of two "standard scores." The latter type of score is reported in this article.

The aim of the statistical procedure is to obtain an optimum prediction of (1) from a combination of (2) and (3). Of course, (2) and (3) are known before admission, while (1) is obtainable only after a year's residence in college. The relationships between the three variables are calculated from the scores of students who have entered in previous years and are then applied to the prediction of the achievement of a newly entered group.

Data based on 170 students who entered the College of Engineering in 1935, 1936 and 1937 may be used to illustrate the calculations. Of this group 63 were successful candidates for scholarships, while the remaining 107 were unsuccessful candidates who nevertheless entered the college. For this group of 170, the means and standard deviations of each of the variables were calculated, and also the Pearson product-moment coefficients of correlation between them. These results were as follows:

$M_1 = 2.55$ $\quad$ $S.D._1 = .715$

$M_2 = 3.42$ $\quad$ $S.D._2 = .407$

$M_3 = 110.$ $\quad$ $S.D._3 = 17.3$

$r_{12} = .554$ $\quad$ $r_{13} = .519$ $\quad$ $r_{23} = .122$

The coefficients of correlation are typical of those usually obtained. The high school factor and the test score are about equally predictive of college marks, the former being a trifle better than the latter. The very low correspondence between high school marks and the test score was surprising at first, but has proved also to be typical.

When two variables that are not highly correlated with one another are each correlated with a third, a better degree of prediction can be secured from a combination of the two than from either separately. This is indicated by the multiple correlation coefficient from the above data, $R_{1(23)} = .717$. From the means, standard deviations and correlations given above, the multiple regression equation was calculated for predicting (1) from (2) and (3) together. This, for the group here considered, is:

$$X_1 = .879\,X_2 + .0189\,X_3 - 2.54$$

If one substitutes a candidate's high school "factor" for X_2 in this equation and his test score for X_3, then the resulting X_1 is his predicted college factor. The Probable Error of Estimate of this predic-

tion is .336; that is, the chances are even that a given student's actual college average will be within about one-third of a grade unit of the predicted value.

The awarding of scholarships could now be carried out by solving this equation for each candidate, the awards being made to those who have the highest predicted scores. The great labor of these computations is reduced by a graphic device, however. A chart is prepared (Fig. 1) on which are plotted the high school factor and the test score of each candidate. Then a line is drawn on the chart above which the candidate has a better than even chance of achieving a college factor of 3.00. This line is determined as follows:

$$\text{If } X_1 = 3.00, \text{ then}$$

$$\text{or } 3.00 = .879\,X_2 + .0189\,X_3 - 2.54$$

$$X_2 = \frac{5.54 - .0189\,X_3}{.879}$$

Typical values of X_3 are substituted in the last expression, and it is solved for X_2. This gives a series of points on the graph. In practice, the scholarship awards are competitive, since their number is fixed. The highest ranking students "north-east" of the line of selection are awarded scholarships in the number available, and others are chosen as alternates in order of merit.

At Carnegie Institute of Technology an average grade of B (factor of 3.00 or higher) is required for the renewal of a scholarship. This rank is so high that it was attained by only 29 of 317 freshmen, or about 9 per cent, in the College of Engineering in 1937-38. Of the 20 Engineering scholarship holders in this freshman class, 11 students, or 55 per cent, retained the honor. Of the rejected candidates, who are an above-average group even though they did not qualify for scholarships, 7 of 34, or 21 per cent, maintained factors above 3.00. Of the remaining 263 freshmen only 11, or about 4 per cent, reached this standard. In view of the severity of the criterion, the results achieved are not viewed as unsatisfactory.

The procedure outlined here is applicable to any situation in which a high school average and the result of an aptitude test can be expressed numerically. In introducing this method to an institution that has not used it before, it is probably justifiable to assume that $r_{12} = .50$ and $r_{13} = .50$, and to calculate the r_{23} and the means and standard deviations from the first year's data. In subsequent years the complete procedure may be used, with the appropriate correlations computed from previous years' results.

SOPHOMORE COURSES FOR SUPERIOR FRESHMEN[1]

CLARENCE E. DEAKINS

THE FACULTY of Lawrence College passed legislation in 1932 which took into consideration the individual differences of students entering the college. At this time the college made it possible for freshmen in the upper twenty-five per cent of the entering class to choose a course for which sophomore rank was the only stated prerequisite.

In 1934, the faculty passed further legislation extending this privilege to freshmen ranking in the upper fifty per cent of the entering class, and giving the upper twenty-five per cent the privilege of choosing two sophomore subjects provided they had completed all the freshman requirements. This latter possibility would exist in the case of freshmen who at the time of entrance were able to pass proficiency tests in either English, foreign languages, or science, thus permitting two electives during their freshman year instead of the usual one.

The faculty took this position because they realized that the segregation of courses between the freshman and sophomore years had been made upon the assumption that certain courses apparently demand greater educational experience and more mature intellectual capacity. It had been assumed that this maturity of intellect and experience could be gained only by attending courses in college.

Many studies have been made recently which have tended to show a great difference among students admitted to our colleges and universities, a difference which exists even among the institutions maintaining the highest type of entrance requirements. The Lawrence College faculty recognized this difference and the possibility that some freshmen were as intellectually mature as many sophomores, and that they might be as proficient in a given field of study when they entered college as many of their classmates a year later.

This program has been in operation now for a sufficient length of time and a sufficient number of individuals have taken advantage of

[1] This paper was read before the October meeting of the Wisconsin Association of Collegiate Registrars. The statistical work for the study was performed by Anna Mae Savidis, a student in Lawrence College.

the opportunity to make it appropriate to attempt an evaluation of the program. In evaluating the program, three points of view have been considered: (1) The retention in the college of students taking part in the experiment. (2) The election and continuation of sophomore courses taken by the group as freshmen, and (3) A comparison of the scholastic averages of those students participating in the experiment and the control group composed of those students who were eligible to enroll in sophomore courses but who did not take advantage of

TABLE 1

A COMPARISON OF THE EXPERIMENTAL AND CONTROL GROUPS ON AMERICAN COUNCIL PSYCHOLOGICAL TESTS AND RANK IN HIGH SCHOOL

	American Council Psychological Test Percentiles			High School Percentile Rank		
	Q_1	M	Q_3	Q_1	M	Q_3
Experimental Group						
Class 1938	77	87	94	84	91	96
1939	76	87	96	81	89	95
1940	56	76	88	79	88	94
Control Group						
Class 1938	71	80	89	82	88	95
1939	66	80	94	79	87	95
1940	61	72	89	83	90	95

the opportunity offered. In considering the scholastic success of those participating, there has been included a comparison of the performance of the students in the freshman and sophomore courses.

The first difficulty encountered in putting the faculty legislation into effect was the development of a method for determining at the time of registration the position of the student within the freshman class. In a study of past records it was discovered that in general a student ranking in the upper ten per cent of his high school class would rank in the upper quarter of the freshman class, and that a student ranking in the upper quarter of his high school class would rank in the upper half of the college freshman class. It was recognized that this method of selecting students for advanced work would be subject to error and that the factor of class size and scores on the state-wide tests given to seniors would have to be considered as well as the pattern of subjects taken in high school.

In this study the experimental group is composed of all students who enrolled in one or more sophomore courses during their freshman year in college. The report on the experimental group is broken down by classes. There was a total of 271 students participating in the project, 76 in the class of 1938, 93 in the class of 1939 and 102 in the class of 1940. The control group is composed of all students who were eligible to participate in the program but who for various reasons did not enroll in any advanced courses during their freshman year.

TABLE 2

RETENTION OF STUDENTS PARTICIPATING IN THE EXPERIMENT

	Number and Per cent Returning										
	Sophomore Year					Junior Year			Senior Year		
	Original Number in Experimental Group	Per cent of Class Participating	Number Returning	Per cent of Original Experimental Group	Per cent of Entire Class Returning	Number Returning	Per cent of Original Experimental Group	Per cent of Entire Class Returning	Number Returning	Per cent of Original Experimental Group	Per cent of Entire Class Returning
Class of 1938..	76	25.9	58	76	34.5	41	54	33.3	36	47	36.7
Class of 1939..	93	34.2	65	70	40.9	38	41	36.9			
Class of 1940..	102	39.5	75	74	41.7						

A comparison of the median score made by the experimental group with the median score made by the control group on the American Council on Education Psychological examination presented in Table 1 indicates that a better type of student scholastically participated in the experiment than those who did not take part. The median percentiles for the experimental group were 87, 87, 76, while for the control group they were 80, 80, and 72. The same fact is apparent in a comparison of the median percentile rank in high school. The experimental group again surpassed in all except one class with median percentiles of 91, 89, and 88, as against 88, 87, and 90 for the control group.

It is quite noticeable that the retention of the students who participated in the experiment was better than was the retention of all the students in the various classes. Table 2 shows the retention of students in the experimental group compared with the retention of the entire class.

In the class of 1938, 25.9 per cent of the class participated in the experiment during the freshman year. During the sophomore year the experimental group represented 34.5 per cent of the entire class, in the junior year, 33⅓ per cent, and the senior year 36.7 per cent. The same general situation prevailed in both the classes of 1939 and 1940. The retention of the experimental group was better than the retention of the class as a whole. Whether or not this is significant may be questioned since it is reasonable to expect the retention of students in the upper half of the class to be better than in the lower half. The freshman classes entering in 1936-37 and 1937-38 were checked and it was found that 75 and 67.6 per cent respectively of the upper half of each class returned for the sophomore year. This appears to be about the same as the 74 per cent return of the experimental group for

TABLE 3

REGISTRATION IN ADVANCED COURSES OF SOPHOMORE SUBJECTS ELECTED IN FRESHMAN YEAR

	Sophomore Year		Junior Year		Senior Year	
	No.	% of Those Return.	No.	% of Those Return.	No.	% of Those Return.
Class of 1938.....	28	48.9	15	36.6	16	44.4
Class of 1939.....	28	43.0	16	42.0		
Class of 1940.....	31	40.8				

the class of 1940. It would appear, therefore, that the experiment had little effect on the retention of the students. It may be said, however, that the program of placing students in advanced courses did not discourage their return to Lawrence for further study.

In Table 3 it is shown that 48.9 per cent of those returning to college from the class of 1938 continued their subjects taken under this special arrangement as freshmen. Of those returning their junior year, 36.6 per cent continued these subjects and during their senior year, 44.4 per cent of those returning registered in advanced courses of the sophomore subject elected in their freshman year. This would seem to be a sufficiently large number to indicate thoughtful selection on the part of the freshmen in choosing subjects without reference to their major field, which is not selected at Lawrence until the beginning of the junior year.

Critics of the idea argued that many students taking sophomore courses their freshman year would elect freshman courses later in their

college career. Table 4 indicates the number and per cent of those returning who elected freshman courses in their advanced years. Between one-fourth and one-third of the group elected a freshman course later in their college career.

In only a few cases were these courses taken as a part of the major or a prerequisite for the major. Table 5 lists the freshman subjects elected by the experimental group during their later years in college. Fine Arts 1 and 2, Speech 7 and 8, History 1-2, and Mathematics 1-2 seem to be predominant among the freshman courses taken by sophomores. The elections covered, however, a considerable range of sub-

TABLE 4

ELECTION OF FRESHMAN COURSES BY EXPERIMENTAL GROUP DURING ADVANCED YEARS

	Sophomore Year		Junior Year		Senior Year	
	No.	% of Those Return.	No.	% of Those Return.	No.	% of Those Return.
Class of 1938....	9	26.5	8*	33.3	6	16.6
Class of 1939....	22	33.8	11†	28.9		
Class of 1940....	22	29				

* 2 included on Major.
† 3 on Major or prerequisite for Major.

jects and there does not seem to be a concentration in any one field. Freshman courses which were taken in the junior year were quite widely scattered with some concentration in Fine Arts 7-8 (Music). This might be expected as advisers encourage juniors and seniors to select their courses in the Fine Arts as a cultural part of their program. Three freshman courses were taken by this group in their junior year, however, as a prerequisite for the major.

The performance of the freshmen students in their sophomore courses is the chief measure of the success or failure of the program. Table 6 presents a comparison of the averages of the experimental group with other groups of students in the college.

The averages of all the students in the experimental group were in almost all cases higher than the averages of the students in the control group. The students enrolling in sophomore courses secured a higher average in all their courses than the average for the entire freshman or sophomore classes.

The experimental group in the class of 1938 made a 1.755 average

in their sophomore courses while the average for the entire sophomore class of that year was 1.612. Their average of 1.755 for the sophomore courses was also higher than the average for the control group whose average was 1.461. In only one case, the class of 1940, did the control group equal the experimental group.

TABLE 5

ELECTION OF FRESHMAN COURSES BY EXPERIMENTAL GROUPS DURING ADVANCED YEARS

	Sophomore Year			Junior Year		Senior Year
	Class of 1940	Class of 1939	Class of 1938	Class of 1939	Class of 1938	Class of 1938
Art 5 (Semester)	0	2	0	0	0	0
Biology 1–2	0	1	0	0	0	0
Biology 5–6	0	3	0	0	0	1
Chemistry 15–16	0	1	1	0	0	0
Engineering	1	0	0	0	0	0
English 5–6	1	0	0	0	0	0
Fine Arts 1–2	4	5	1	0	0	1
Fine Arts 5–6	1	0	0	0	0	0
Fine Arts 7 (Semester)	0	0	2	0	0	0
Fine Arts 7–8	3	0	0	3	5 (1 Maj.)	3
French 3–4	0	0	0	2 (1 Maj.)	1	0
German 5–6	0	0	0	3	0	0
Greek 1–2	0	0	0	1	0	0
History 1–2	0	6	3	1	0	0
History 3–4	3	5	0	0	0	0
Italian 9–10	0	0	0	0	0	1
Math. 1–2	4	1	4	0	1	0
Phys. Science 5–6	0	0	1	0	0	0
Physics 19–20	0	1	1	0	0	0
Religion 5 (Semester)	0	0	0	1 (Req.)	0	0
Spanish 7–8	0	0	0	0	1	0
Speech 7–8	9	4	1	0	1	1
Zoology 5–6	0	0	0	1	0	0

In the class of 1938, the average for all the students in the experimental group was $1.843 \pm .148$, while the average for all students in the control group was $1.461 \pm .196$. This difference would seem to be significant according to our customary practice of awarding scholastic honors on the basis of averages figured on honor points. By using the formula for the reliability of the difference between two averages in terms of the standard error of the differences we get a critical ratio of 1.0. Since the critical ratio should be at least 3.0 to insure reliable predictions, we cannot be certain that another group would produce the same results under like circumstances. We there-

fore cannot make any predictions on the basis of this study. We can say, however, that the students at Lawrence College who enrolled in sophomore courses as freshmen were able to secure grades as high as or higher than those who took the standard college course. There were

TABLE 6

A COMPARISON OF AVERAGES OF EXPERIMENTAL GROUP WITH OTHER GROUPS IN THE COLLEGE

	Entire Freshman Class	Entire Sophomore Class	All Students in Experimental Group	All Students in Control Group	Experimental Group in Sophomore Courses	Experimental Group in Freshman Courses
Class of 1938....	1.261	1.612	1.843	1.461	1.755	1.850
Class of 1939....	1.318	1.538	1.672	1.551	1.569	1.696
Class of 1940....	1.262	1.568	1.583	1.604	1.595	1.618

many subjective values accruing to the group which do not lend themselves to statistical treatment, such as, a greater intellectual challenge, a more absorbing enthusiasm as a result of enrolling in a course of particular interest to the individual and the opportunity to include more advanced courses within the four year college program.

TABLE 7

A COMPARISON OF STUDENTS ENROLLED IN TWO SOPHOMORE COURSES EACH SEMESTER WITH THOSE TAKING LESS THAN TWO EACH SEMESTER

	Average of Those Enrolled in Two Sophomore Courses Each Semester	Average of Those Enrolled in Less than Two Sophomore Courses Each Semester
Class of 1938.....	2.041	1.799
Class of 1939.....	1.831	1.659
Class of 1940.....	1.713	1.592
General Average.....	1.827	1.660

The averages of the students who enrolled in two sophomore courses each semester were far higher than the averages of all students who participated in the program. By using the same formula for the reliability of the difference between two means we get a critical ratio of less than 1, which again indicates that the differences are insignificant for purposes of prediction. It is evident, however, that high school students of superior intellectual ability can do sophomore work

of an acceptable nature. A question might be raised concerning the lower limits set for enrolling students in the advanced courses.

A record of the number of students enrolling in sophomore courses and the number who received a higher grade in their sophomore courses than they did in their freshman courses appears in Table 8.

Only thirty-eight per cent were able to secure in their sophomore courses grades equal to or better than those obtained in their freshman courses. This may lead to the conclusion that the plan operated to lower

TABLE 8

STUDENTS SECURING HIGHER AVERAGES IN SOPHOMORE THAN FRESHMAN COURSES

	No.	No. with Higher Average in Sophomore than Freshman Courses	Per cent
All Who Took Sophomore Courses			
Class of 1938	76	28	38
Class of 1939	93	29	31
Class of 1940	102	45	44
Total	271	102	38

the grade averages of some of the students inasmuch as they might have secured higher grades if they had enrolled in all freshman courses.

CONCLUSIONS

In summing up the evidence presented we arrive at the following conclusions:

1. The experiment of challenging the intellectual ability of the more brilliant students by enrolling them in sophomore courses did not tend to discourage them from continuing their work in Lawrence College. There is no evidence to show, however, that the program affected in any way the retention of students in the college.

2. Twenty-five to thirty-three per cent of the group returning to freshman courses in their sophomore and junior years failed to take advantage of the opportunity which the plan offered to students for more work of an advanced nature. This may be due, in part, to the general program of the college which encourages juniors and seniors to continue their program along broad cultural lines and, therefore, forced the students into beginning courses in new fields of learning.

The college has always refrained from a strong line of demarcation between the so-called upper and lower division or junior and senior college.

3. A factor of self selection may have entered into the operation of the program since only those with confidence in their intellectual ability and the desire and enthusiasm to forge ahead in the realm of intellectual activity dared to take advantage of the faculty legislation. On the other hand, many superior students may have refused to enroll in sophomore courses because of vocational or professional reasons.

4. College freshmen of superior intellectual ability can do work of sophomore rank. There will always be a difficult problem of determining the individuals who should be given the opportunity; nevertheless, this obstacle should not deter us in our efforts to meet the intellectual needs of those who come to us. It would seem that the time has come for us to remove the yards of red tape and the inhibitions of tradition which surround our freshman advisers and give them an opportunity to build a more satisfactory program for the individual student.

—*Volume 14, Number 2*

ADMISSIONS AND EXAMINATIONS IN THE GENERAL COLLEGE OF THE UNIVERSITY OF FLORIDA[1]

JOHN V. MCQUITTY

THIS PAPER is primarily a discussion concerning the differences between the plan of admissions and examinations at the University of Florida and the plan prevailing generally. The Florida plan has many elements in common with the latter. We are all striving for the same goal—to do the most for those students who identify themselves with our own particular institutions.

It is a generally accepted fact that admissions play a very important part in the functioning of our institutions. They provide the material with which we have to work. The admission requirements must be based upon at least three primary considerations:

1. The aims and purposes of the institution.
2. The needs, capacities and abilities of the individuals who will seek admission.
3. The effect of the admission regulations upon the secondary schools which prepare the students for college work.

These considerations can be expressed in three words—institution, individual and high school.

Perhaps we can pass over the institutional consideration by saying it plays its part in the building of the curriculum.

Now as to the individual: At the University of Florida, when we were studying our admission requirements with an idea of improving them, we said that we have had persons apply for admission who, we believed, could do successful college work, but who did not have twelve academic units some five or six of which had to be in some specific subjects. The person had not taken the college preparatory course, but some place along the line he changed his mind, perhaps wisely, about going to college. On the other hand, we had applicants who met all of the quantitative requirements but who appeared to be very poor college material.

[1] This paper was read before the October meeting of the Association of Kentucky Registrars.

The first type of individual we could not admit; the second one we had to admit.

Then we felt that maybe our specified units and quantitative requirements tended to curb the initiative of the secondary schools in solving their problems of individual adjustments. Perhaps they felt the University was trying to dictate their policies. It may have given them an opportunity or excuse to be slovenly in their curricular problems; an attitude of "our hands are tied, the University requires it."

So we decided to abandon all specific unit requirements for admission. But we said we must also neither be, nor appear to be, lax in our requirements. The following were agreed upon as the prime considerations in admission:

1. High school graduation.
2. Consistency and quality of the high school record as revealed by school grades.
3. Principal's rating.
4. Placement tests results covering general aptitude, English, social studies, mathematics, and natural sciences.

These requirements became effective for all freshmen entering the University of Florida on or after September, 1935, the time the General College opened.

In actual practice the complexion of the student body is not greatly changed by such a set of requirements. But the attitude toward admissions is greatly changed. It becomes one of looking for indicators of quality and not of quantity.

Each spring the top 80-100 men (the University of Florida is noncoeducational) on the state-wide placement tests are written personal letters congratulating them on their high attainments and pointing out that they could profitably continue their education at some institution of their choice. Let me tell you about one young man who was encouraged to come to us through this method. He was high man in the state on the psychological examination. A brilliant but impecunious chap. Both of his parents died when he was young and his relatives all lived in Europe. He worked his way through high school by serving in the cafeteria and doing janitor work. We gave him a job with the Board of Examiners. He has made a brilliant record both in his college work and with the Board. He has a promising future in his chosen field of Chemistry.

Special attention is given to those applicants whose high school records and placement test results indicate they will have but little chance of passing their college work. Here a most difficult problem arises: How to distinguish between those who can and cannot do successful college work. Notice the use of the words *can* and *cannot*. It so happens that a more accurate distinction can be made between those who *can* and *cannot* than can be made between those who *will* and *will not* do successful college work. Even among those who stand in the highest tenth on their placement tests we find a few who make complete failures of their college work. On the other hand, we do not find persons in the lowest tenth making satisfactory records. (For eighty such individuals only one made a C average for any grade period.)

So far as graduates of Florida high schools are concerned we have tentatively adopted the policy of advising applicants who stand in the lowest tenth on their placement tests (high school senior norms) against attempting college work. To applicants who stand in this category we write a personal letter which says in effect:

"We have received your application for admission and have carefully examined your credentials. All of the information we have at hand definitely indicates you will be unable to do successful college work. Hence we are withdrawing your application.

"In rendering this decision we believe we are acting in your best interest. Failure causes embarrassment, leads to discouragement and involves financial loss.

"After you have had an opportunity to improve your background by additional reading and study, we shall be glad to have you re-apply.

"However, if there be pertinent information regarding your previous record which is not revealed in the data we have at hand but might cause us to change our decision, you may present this information in person at a meeting of the Board of Examiners (a definite time and place is given). If you plan to appear, please let us know in three days."

In the course of a summer we will have about 1,200 applications and write about 60 such letters. Approximately one half of the recipients of the letters come for personal conferences with the Board. These conferences are very interesting. They run about as follows:

Quest. How do you explain your poor high school record and your low standing on the placement tests?

Ans. Did not know my record was poor. Did not study. Was not interested. Did not understand the tests. Did not have sufficient time on the tests.

Quest. Why have you decided to come to college?
Ans. I realize you cannot get any place in this world without a college education.
Quest. What makes you think you can do college work?
Ans. I am ambitious and I will work hard.

After further discussion and pointing out the applicant's small chance of success in college based upon past experience with others of like high school records and placement test results, we usually terminate the conference by telling him to think over the matter for a week and give us his decision. If he still wants to enroll, we give him a chance. We feel that we have given him the best advice at our disposal. The rest is up to him and his parents. About two-thirds of those who appear for conferences actually enroll. As I mentioned earlier, out of eighty such persons only one has made a C average for any grade period.

COMPREHENSIVE COURSE EXAMINATIONS

Progress toward the completion of the work of our General College in which all the freshmen and sophomores are registered, is measured solely by the results of comprehensive examinations; eight or more such examinations six hours in length are required for completion of the two years' work and the Association of Arts certificate. Each six-hour examination represents about eight semester hours' work.

The plan is one of separation of the teaching and examining functions. In actual practice, the questions are prepared by the instructional staff with the advice and aid of the Examining Board. The examinations are printed, given, and scored by the Board. The staff is invited to help set the grades, i.e., determine what scores shall divide the groups at A, B, C, D, C, and E levels.

The framing of suitable test items has been a difficult problem. We found ourselves confronted with the task of constructing objective examinations when most of us had had little training in that line, and some of us had never used that kind of examining technique. For most of us it meant a period of education in construction of objective examinations.

Some of our early experiences may be interesting to you. Fortunately our schedule of comprehensive examinations enabled us to start on a small scale with two three-hour examinations at the mid-year, with the bulk of them coming the following spring. These first two

were made up entirely by the Board of Examiners with the aid of a few general questions and the objectives of the courses furnished by the instructional staffs.

That these two examinations were favorably received by the staff was due largely to one thing. About a month before the first examination, we had one of the course staffs which had given a number of tests devised by the individual teachers submit estimates of the grades they would expect their students to receive in the course. The correlation between these estimates and the grades determined by the Board's examination was .70. High enough to convince the instructors the comprehensive examination system had some merit in it and still not so high but that the Board believed its examination made a contribution not revealed in the instructor's estimate.

These first two examinations served another purpose. The instructional staff members were quite generous in their criticisms. The Board usually agreed that the criticism was excellent and invited the staff member concerned to see if he could not frame test items which would overcome the difficulty. Thus faculty participation was achieved by offering a challenge which was eagerly accepted generally. This faculty participation seemed necessary for three reasons:

1. Faculty participation helped to secure faculty support.
2. Thorough acquaintance with the subject matter and with what is actually taught is indispensable in building examinations. A faculty member is in a position to have this acquaintance.
3. The Board did not have sufficient staff to build fifty-nine three-hour examinations in eighteen different subjects.

We had some other interesting experiences. There was considerable opposition to objective examinations. They were frequently referred to as "objectionable" examinations. One staff member was particularly outspoken in his objections. Our surprise was greatest when this same instructor, some time later, brought in a 100 per cent objective examination which he wanted us to help him prepare for a senior course, one in which the Board had no direct concern.

Our examining system does seem to offer several distinct improvements over the more traditional examinations prepared by each instructor for his own students:

1. Our examinations are produced by co-operative effort of several individuals over a period of several weeks.
2. Our system seems to demand a more critical survey of the aims of

the course and to provide a method of measuring the extent to which these aims are achieved.

3. Grades are based solely on achievement and are valid and reliable to the extent that the examinations are.
4. Both students and faculty feel that the personal element has been reduced to a minimum. In this connection, one mother came to see us about her son's failures. She very frankly admitted her son made good grades in high school largely on his pleasing personality but he could not pass our examinations which were impervious to personality.

Some objections that are raised:

1. The system reduces motivation. How do we know that a student who has A grade ability may not capitalize on the wide rank in ability of the group examined and make a C without working. (You must remember that the entire freshman or sophomore class will take the same examination at the same time.)

   There is a temptation to avoid the issue by saying it is an instructional problem. The examination itself will not tell how or where the student obtained his knowledge nor whether he has lived up to his ability.

   There are two points that help solve this problem. In the first place, the student of high ability cannot be certain that those of lower ability may not surpass him through extra effort. No one knows what the rest are going to do and anyone may fail unless he does his best. Since the examination is the sole basis for determining the grade, no one can rest on past laurels or daily grades. In the second place, the distribution of scores on the examination always shows the general contour to be expected from a large sample working under ordinary motivation.
2. The system puts a premium on isolated facts, memory, and does not require the student to organize his material or learn principles.

   The answer to this lies in the examinations themselves. In constructing the examinations we must continually ask, "What will the student have to do to answer this item?" We can eliminate many of those which can be answered by isolated facts or memory alone, and use others which call for application of principles. Items of this type can be produced by supplying situations the student has not encountered in class but to which the principles can be applied. For example, in questions on weather, climate, and geology we can specify that the world is to rotate once in forty-eight hours and then ask our questions. In my estimation, the deficiency lies in our ingenuity in making examinations and not in the examinations per se.

We have an International Test Scoring Machine to score our objective examinations. The boys very unaffectionately call the machine "flunkenstein." We just could not do without the machine. It will score an examination of 150 items at the rate of sixteen papers per minute.

With us nothing but the final comprehensive examination counts in determining the grade in the courses in the General College. However, throughout the year, the Board gives practice tests so that students may see how they are doing. "Progress tests" they are called. Some argue that these tests should count in determining the final grade. The Board takes the position that these "progress tests" cover bits of the course and do not add up to make a total. The student cannot "cash-in" by doing parts of the course well; he must do the entire job well.

—*Volume 14, Number 2*

SUMMARY OF STUDIES REPORTED

Trends in Subjects Offered for Admission to College

THERE has been completed at Moravian College for Women a six years' study of the subjects offered by candidates for admission in an attempt to ascertain what trends there might be in the selection of secondary school subjects which will influence college admission requirements.

PREPARATION IN LANGUAGES, MATHEMATICS, AND SCIENCES OF STUDENTS ENTERING MORAVIAN COLLEGE FOR WOMEN

1933-1938

The figures are approximate percentages.

	1933	1934	1935	1936	1937	1938
Number of students	46	67	61	46	85	78
No language	—	1.5	—	—	4.7	—
One language	32.6	16.4	16.4	28.1	40	35.9
Two languages	67.4	76.1	78.7	78.3	54.1	64.1
Three languages	—	6	5	—	1.2	1.3
French, 2 years	39.1	40.3	45.9	34.8	51.8	25.6
French, 3 years	19.6	28.4	19.7	32.6	14.1	21.8
French, 3½ or 4 years	2.2	3	—	—	—	—
French, total	51.1	71.6	65.5	67.4	65.9	47.4
German, 2 years	10.9	13.4	24.6	15.2	23.5	21.8
German, 3 years	10.9	9	5	8.7	2.4	5.1
German, 4 years	2.2	—	—	—	—	—
German, total	23.9	23.9	29.6	23.9	25.9	27
Italian, 2 years	—	—	—	2.2	—	—
Spanish, 2 years	6.5	6	5	4.3	1.2	7.7
Spanish, 3 years	—	1.5	—	2.2	—	1.3
Spanish, total	6.5	7.5	5	6.5	1.2	9
Latin, 2 years	28.3	47.8	47.5	41.3	36.5	60.3
Latin, 3 years	10.9	9	16.4	8.7	9.5	6.4
Latin, 4 years	37	28.4	24.6	30.4	15.3	18
Latin, total	76.1	85.1	88.6	80.4	61.2	84.6
Algebra, 1 year	17.4	19.4	18	19.5	24.7	16.7
Algebra, 2 years	78.3	71.6	72.1	76.1	68.2	75.7
Algebra, 3 years	—	7.5	9.8	4.3	6.1	7.7

	1933	1934	1935	1936	1937	1938
Plane Geometry	87	82.1	91.8	89.1	76.5	94.9
Solid Geometry	13	20.9	11.5	21.7	14.1	6.4
Trigonometry	13	19.4	14.7	17.4	15.3	12.8
No laboratory science	17.4	22.4	9.8	17.4	7	9
One science	60.9	37.3	54.1	34.8	44.7	33.3
Two sciences	15.2	26.9	21.3	39.1	34.1	70.5
Three sciences	6.5	13.4	14.7	8.7	14.1	12.8
Bacteriology	—	—	—	—	4.7	—
Biology	41.3	49.3	59	63	74.1	71.8
Botany	—	6	5	4.3	1.2	3.8
Chemistry	50.5	55.2	52.5	56.5	56.5	65.4
Physics	13	18	24.6	17.4	15.3	16.7
Zoology	2.2	1.5	5	—	4.7	6.4

An increasing number of entrants are offering only two years of French or Latin as compared with the former three or four years. There has been a decided increase in the number of applicants who offer Biology.

Since the study does not include the social sciences it does not indicate whether or not foreign languages are being forsaken for the sciences or the social sciences. Similar studies by the registrars of other liberal arts colleges might yield interesting and valuable data.

—ARTHUR S. COOLEY

The Prediction of College Success in Latin, Spanish and French

IF THERE is a special aptitude for the study of foreign language it would seem that the artificial language section of the American Council on Education Psychological Examination would offer possibilities for study. This study was undertaken in an attempt to find the prognostic value of that section in comparison with the test as a whole and was extended to find the comparative values of the other parts of the test in this respect.

Both test records for the four years this test had been used and grades in first year Latin, Spanish and French were obtained from the Office of the Registrar of the University of Colorado and correlated. The records of those who had had previous work in the special language studied were omitted because it was felt that in the first year's

work previous training in the same language might influence grades unduly. Otherwise all cases available for the years 1931-32, 1932-33, 1933-34 and the first two quarters of 1934-35 were used in the study.

It was found that the yearly averages in the various languages were slightly lower than the grades for the first and second quarters. Therefore this difference was calculated and the correction made in the cases of those who had less than the full year's work.

The following table of the coefficients of correlation between test scores and language grades will give a basis for comparison and evaluation:

	Latin	Spanish	French	General Av.
No. of cases	57	87	163	
Artificial language	.305	.476	.512	.463
Arithmetic Section	.304	.435	.245	.306
Analogies Section	.335	.311	.213	.263
Opposites Section	.371	.471	.413	.422
Completion Section	.299	.284	.338	.315
Test (Whole)	.458	.569	.523	.524

Because of the limited number of cases naturally the distribution curves both of the scores and of the grades were not as near the normal as could be wished but even the limited number of cases seems to suggest significant tendencies.

The artificial language section gives a higher correlation than any other part of the test, the average being .463 and the highest being .512 in the case of French. Both in this section and in the test as a whole the correlation for Spanish and French is much higher than for Latin. Some of this is probably due to the limited sampling. On the other hand it may be that the content and methods of teaching Latin would require a slightly different test for prognosis.

Aside from this section only the section on opposites would seem to approach the point where it might be developed for prognosis in language achievement.

It may be that the somewhat low correlation of the artificial language section is due to the length of this part of the test. The short time limit of thirteen minutes gives a limited and probably an inadequate period of adjustment to an entirely new situation. Such an adjustment naturally is a part of the learning of a foreign language but in a test of this sort it is possible that this element is given too much emphasis, which might tend to make it a test of reaction time in a

new situation rather than language aptitude.

However, in spite of the short period of time this section gives a correlation for Spanish and French that approaches, equals or even surpasses that of several longer tests that have been used for this purpose. It is interesting to note that by supplementing this section with three sections made up of English and Esperanto, Symonds[1] secured a correlation of .61 even though he introduced the problem of reaction to a second strange language situation in a limited time. While a reference to the table will show a higher correlation between the scores of the whole test and the grades in these languages it is worth while to consider the time element. If a thirteen-minute section can approach the correlation of a sixty-two minute test in predictive power it would seem that it would have possibilities of a much higher correlation if extended to a more adequate length.

EARL E. BROCK

Ninety-two Opinions on Recruiting

THE OPINIONS which are summarized below have been obtained from information volunteered by forty-three liberal arts colleges and forty-nine high school principals scattered over the state of Penn-

TABLE 1
THE VALUE OF SCHOLARSHIPS

TYPE OF SCHOLARSHIP	VERY VALUABLE TO THE STUDENT	OF SOME VALUE TO THE STUDENT	OF NO VALUE TO THE STUDENT	DETRIMENTAL TO THE STUDENT
1. A scholarship is given to the student for one semester	1.4	44.6	33.8	20.3
2. A scholarship is given to the student for one year	12.9	62.5	16.8	7.8
3. A scholarship is given to the student for four years	57.5	21.25	13.75	7.5
4. A scholarship is given to the student if he takes part in a college activity	5.5	38.4	27.4	28.8
5. A scholarship is given to the student because of the high scholastic standing of the student	63.0	28.4	8.6	0.0
6. A scholarship is given to the student because of the high standing of the student in an examination given by the college	54.4	35.4	10.1	0.0
7. A scholarship is given to the student because of the influence of a political leader	0.0	24.0	21.3	54.7

[1] Symonds, P. M., "A Foreign Language Prognosis Test," *Teachers College Record*, 31, 1930, 540-556.

sylvania. Two tables are selected from the study to indicate the practices used and the estimated value of scholarships.

TABLE 2

EVALUATION OF THE PRACTICES USED

The Practice	Very Valuable to the Student	Of Some Value to the Student	Of No Value to the Student	Detrimental to the Student
1. A representative of the college talks to the prospective student in his home	42.3	45.9	7.1	4.7
2. A representative of the college makes two or more visits to see the prospective student in his home.	15.2	46.8	17.7	20.2
3. A representative of the college talks to one or both of the parents of the prospective student	34.9	56.6	8.4	0.0
4. A representative of the college talks to the prospective student in his high school	25.3	73.6	1.1	0.0
5. A representative of the college talks to the students of the high school during one of their assembly programs	9.3	72.1	18.6	0.0
6. A group of students from the college presents a program to the students in the high school	5.9	54.8	39.3	0.0
7. A college graduate talks with the prospective student relative to attending his college	21.25	72.5	3.75	2.5
8. One of the teachers or the principal of the high school suggests that the prospective student attend his college	6.2	55.5	24.7	13.6
9. A copy of the college catalog is given to the prospective student	28.3	65.2	5.4	1.1
10. Pictures of the college campus are given to the prospective student	11.0	68.1	18.7	2.2
11. Moving pictures of the activities of the college are shown to the prospective student	12.5	69.3	17.0	1.1
12. The prospective student attends a "High School Day" at the college	38.8	50.6	9.4	1.2
13. The prospective student attends an athletic contest at the college as a guest of the college	4.8	46.4	42.9	5.9
14. The prospective student takes part in a competitive examination given by the college	24.7	54.1	21.2	0.0
15. The prospective student is reached through a radio given by the students or faculty members of the college	2.4	61.0	35.4	1.2

The figures in the above tables are on a percentage basis and indicate the relative value placed upon these various items by those who checked the questionnaire.

Roy W. Wiley

Work-Study Plan for Superior Students at the University of Buffalo

THE University of Buffalo inaugurated, in the spring of 1938, a co-operative Work-Study Plan for Superior Students. The idea of an alternating work and study course is an old one and has a long record of success at the University of Cincinnati and Antioch College. We feel, however, that the plan as it operates at the University of Buffalo, differs in several very important respects from similar plans at other institutions. Five points of difference will be noted here.

1. The Work-Study Plan for Superior Students at the University of Buffalo includes only a relatively small number of students. The plan is not compulsory for the students of any division, and the number included, at least during the experimental years, is limited by faculty action. Compared, therefore, with plans at other institutions, the total number included in our plan is very small. There seems to be no intention on the part of anyone at the University at the present time to extend it to the point where it would become one of our "major enterprises."

2. The University of Buffalo is a private institution, depending principally upon students' tuitions for its livelihood. Being a private institution its tuition is somewhat higher than that of most public institutions, and for this reason many in our community have not been able to avail themselves of our opportunities. In order to be eligible to become a member of the Work-Study Plan one must furnish evidence of need. The principal criterion of need is that the Director be convinced that the student could not (for financial reasons) otherwise attend the University. This information, of course, is sometimes difficult to obtain, and one can never be sure of its authenticity; but applicants are requested to furnish rather detailed information concerning the financial status of their families. We reserve the right to make any further investigations which seem necessary.

3. From the name of our plan—the Work-Study Plan for Superior Students—it is indicated that we include only "superior" students. Our definition of superior, in general, is that the student must have been in the highest fifth of his high school graduating class. For this reason we might be justified in saying that only the "very superior" student is eligible. In very exceptional cases, we will consider students

in the second fifth of their high school graduating class. We include the scholastic requirement because our program would be very difficult for the average or inferior student and also because we feel more obligation to aid students in the high scholarship rank. In general, our purpose in initiating the Work-Study Plan was to make it possible for needy students possessing superior ability to attend the University. As a further aid to our co-operating students, the University makes a slight reduction in its tuition.

4. Contrary to the philosophy of some plans in existence in the United States, our plan makes no provision for the close correlation of the study and work programs. Our plan applies to the College of Arts and Sciences as well as to the School of Business Administration. (We have only limited offerings in Engineering so that we could not extend our plan to a complete engineering program.) We believe that we are justified in placing a young man interested in science, for example, as an usher in a theatre, if by so doing this young man of superior intellect is able to secure his training in chemistry, but could do so on no other basis. We also believe that many of the jobs which are open to co-operating students are not of the character that would make close correlation of work and study possible. The job just mentioned, that of a theatre usher, could not have any very close relationship to the study program. The job could, however, instill in the liberal arts college student, as well as the professional school student, a sense of responsibility and good work habits.

5. Our period of alternation between work and study is considerably longer than that of most institutions having co-operating plans. We alternate our students every four months. In other words, the student goes to school four months, then works four months and continues this process for a period of approximately five calendar years in order to complete the regular four-year bachelor degree requirements. We believe this somewhat longer period of alternation is desirable from the employer's point of view because it provides a greater degree of continuity and permits the student to become more efficient at his work before being interrupted by the full-time study period. We also believe it to be desirable from the point of view of the University, because it permits our participants to attend our regular semester. The summer four-months period permits the attendance at the Summer Session for the student who is at study. It also makes it unnecessary for the University to set up any special classes just for such

students. This is an important financial aspect of the plan when only small numbers are involved. During the period when the student is at work he carries four to six semester hours of work during the evening.

The results of our limited experience with a co-operative plan are most gratifying. Our requirements are sufficiently exacting that we have not had to interview large numbers. Contrary to our original expectations, we have not found any difficulty in securing employment for all students whom we believe to be worthy of the plan. In addition to the requirements of need and scholarship it is always necessary in such a plan to take into account the requirements of individual employers. Motivation is an important prerequisite for the student who is to be successful. Although it is disheartening to find some otherwise eligible students dropping out of the plan after only a brief working experience, we are glad to uncover them before they have become well established with their firms.

—LEWIS A. FROMAN

EDITORIAL COMMENT

Constitutional Revision

IN JULY 1925 the *Bulletin* of the American Association of Collegiate Registrars first appeared as the quarterly publication of the Association. Previously only the proceedings for the annual meetings were published. Beginning with Volume Thirteen, Number One, in October 1937, the publication became the *Journal* of the A.A.C.R. but continued its quarterly appearance. It has been edited, since 1925, by former Registrar R. N. Dempster, of Johns Hopkins University, Registrar William S. Hoffman, of the Pennsylvania State College, former Director of Admissions Roy W. Bixler, of the University of Chicago, and the present editor. Its content has been constantly expanding to include articles pertinent to the general field of higher education. Because of the important place which it now occupies among publications in higher education, its editorship carries with it many duties and much responsibility. According to Article III in the By-Laws of the Constitution of the A.A.C.R., "The term of office for the secretary, treasurer, and editor shall be three years each, one of these officers to be elected each year." The advantages which come from editorial experience have encouraged the Executive Committee of the Association to consider the wisdom of changing the editorship every three years. At the 1938 annual meeting President Kerr was authorized to appoint a committee which should present a revision of the Constitution which would permit the continuity of the editorship until a successor is appointed. In accordance with the provisions of Article VI of the Constitution, the following revisions are now presented for consideration and will be voted upon at the 1939 annual meeting:

CONSTITUTION

ARTICLE IV—OFFICERS

Section 1. The officers of the Association shall be a president, a first vice-president, a second vice-president, a secretary, a treasurer, and an editor. All officers, except the Editor, shall be elected by ballot at the annual meeting, a majority vote of those present and voting being necessary to elect. The Editor shall be appointed by the Executive Committee. With the exception of the treasurer, they shall hold office from the adjournment of the meeting at which they are elected until the adjournment of the meet-

ing in which their successors are elected. The treasurer shall hold office from the beginning of the fiscal year following his election until the close of the fiscal year in which his successor is elected.

Section 2. The officers named in Section 1, together with the immediate past president, shall constitute an Executive Committee, with power to fix the time and place of the next annual meeting as provided in the by-laws, to assist the president in arranging the program, and to make other necessary arrangements.

BY-LAWS

ARTICLE III—TERM OF OFFICE AND DUTIES OF OFFICERS

Section 1. The president and two vice-presidents shall hold office for one year each. The secretary and treasurer shall hold office three years each. The Editor shall hold office until his successor is appointed. Should any annual meeting be omitted, or the time for it changed, the time between two consecutive meetings shall be counted as one year in the administration of the provisions of this section.

—EDITH D. COCKINS, *Chairman,* H. H. ARMSBY, M. E. GLADFELTER

Enrolment Figures

EACH year those concerned with administration in the colleges of the country await with interest the appearance of the regular reports on enrolments, such as that compiled by Fred L. Kerr for the Committee on Special Projects and issued as a supplement to the *Journal,* and the annual article by Raymond Walters in *School and Society.* After a check on the correctness of the figures for his own school, the college officer naturally turns to the statistics for other institutions of the same type as his, or those in the same region. The count of the student body in any one year is, of all objective measurements, the poorest indication of the academic health and progress of the college, but as a basis of comparison with those for preceding years, it serves as a most significant indicator. All but the favored few schools whose endowment is adequate must be alert to the needs of their supporting constituencies. The final test of success in meeting these needs is an enrolment which keeps pace with that of similar institutions.

The first observation to be made from the figures for this year is that the total enrolment in universities and colleges has increased in every section of the country—particularly in the central states—and that the effect of adverse economic conditions is no longer so pronounced. The abnormal increases in publicly supported institutions

which are the immediate consequence of depressions, and the subsequent unusual decreases, are largely absent. A more assured revival in business and industry may shortly offer inducements to high school graduates sufficient to lessen the college influx, or the predicted decline in youth population may soon be felt, but certainly no evidence of these phenomena is as yet apparent.

The rush to the practical and professional curricula, to "bread-and-butter" programs, has distinctly lessened, and the return toward the liberal arts courses is unmistakable. Possibly the disappointments of college graduates of the last few years who have failed to find positions in line with the special training they have had may be responsible for the feeling that a broad preparation is likely to be most generally useful. Or can it be that a demand for culture for its own sake is increasing? But in any case the average student is becoming more critical of the offerings in the catalog, more insistent that his courses have real content.

The relative increase in the attendance of women is greater than that of men in non-professional fields, but this appears to be chiefly a return to the ratio of a decade ago.

On the basis of a study of enrolments for the past nine years, Trevor Arnett (in a recent Occasional Paper of the General Education Board) stated that a definite trend exists for a rate of increase in attendance at publicly supported institutions far greater than that for private institutions, and that in the arts and sciences the private institutions show a decrease in proportionate enrolment against an increase for the state institutions, taking the country as a whole. These statements seem to be confirmed by the reports now at hand, for the public universities this year have again increased their percentage of the total reported attendance. However, these trends can obviously not continue indefinitely; the limit of income for state institutions from tax sources is already perilously near, and it may well be that increases in enrolment, if they continue at present rates, must be diverted to institutions under private control.

—HARRY M. SHOWMAN

Goucher College—Fifty Years of Service

GOUCHER College has just closed its fiftieth year. It was in September 1888 that The Woman's College of Baltimore registered its first students, five of whom composed the first graduating class in

June 1892. A change of name occurred in 1910, when the institution became Goucher College, honoring Dr. and Mrs. John Franklin Goucher, who were among its founders and early benefactors. From the beginning the curriculum has been that of the liberal arts college, and, with only a few exceptions, the students have been candidates for the bachelor of arts degree.

The celebration included an Anniversary Meeting, at which addresses were presented by prominent educators and honorary degrees were conferred upon six distinguished Goucher alumnæ, and a general discussion of the topic, "Ends and Means of College Education."

The past was especially commemorated by the Service of Remembrance held on Sunday morning, and the future of the College was practically visualized by President Robertson in the announcement of the selection of an architect to prepare a general development plan for the new campus site of 421 acres, to which the College hopes to move. The architect was selected as the result of an architectural competition conducted by the College during the previous six months through its Advisory Board of Architects and in accordance with the regulations of the American Institute of Architects. In view of the distinctive character of the Goucher educational program and of the heritage of the College it was stipulated that the new college plant should reflect progressive principles in education and that the development plan should be such as to enable the educational program to function effectively.

The president of the Board of Trustees in his anniversary address referred thus to the moving of the College to the campus: "Again, I say that the important thing is to deserve to move. And what do I mean by that? I mean that Goucher College should continue in the future to stand for the things for which it now stands, that it should continue to be a liberal college—a place where investigation and discussion are independent and free; that it should continue to be an institution which disdains the cheap tricks of those who are willing to substitute size, notoriety, and mediocrity for hard, intellectual work of high quality; an institution which may not have any place in an unstable modern world, but which is willing to stake its existence on its belief that such an institution should have the highest place; an institution which on any and all points of method, organization, and physical surroundings will adjust itself to circumstances, but which on its fundamental conceptions will make no compromise."

IN THE OFFICE

The UNIVERSITY OF PITTSBURGH has installed the International Business Machines' equipment which includes a Duplicating Key Punch, an Automatic Reproducing Punch, and a Card Counting Sorter.

Registrar Quick says, "After only a limited experience, the helpfulness of this mechanical aid is most gratifying. It lends itself particularly to the preparation of class cards, the separating and alphabetical arrangement of registration forms for all offices, and the preparation of statistical studies. We feel that this system has unlimited possibilities so far as statistical calculations are concerned."

SOUTHEASTERN TEACHERS COLLEGE has installed a Dexigraph. Registrar E. H. McCune is very well pleased with the machine, and reports that it is possible to run off forty to fifty transcripts in an hour.

UTAH STATE AGRICULTURAL COLLEGE has enlarged on the use of the direct method of reproducing records. Transcripts have been made by this process since 1929. Last year, term grade reports were made by this process. This year another job is being added to the list, that of providing directory cards for various offices and organizations.

Grade report slips are made by duplicating the registration cards themselves, which are printed on tracing paper.

The directory or census cards are likewise printed on tracing paper and, instead of typing up lists of students with the information requested by various organizations, duplicate copies of the census cards are furnished. Records of this type can be duplicated at the rate of approximately 1,000 per hour on the equipment now available. The cost, including materials and labor, will average around $3.50 to $4.00 per 1,000 copies.

By the direct method is meant making a light exposure with the original copy over a sheet of sensitized paper which when developed gives a positive copy.

The equipment used at the Utah State Agricultural College consists of a Pease continuous belt mercury arc light printing machine, costing $475, and a developer made by the Ozalid Corporation, costing approximately $200.

SOUTH DAKOTA STATE COLLEGE has installed a Remington Rand Varidex filing system and an Ediphone. Registrar Doner is very much impressed by the value of the Ediphone to the administrative officer of a small college.

Registrar S. W. Lamke of WASHINGTON UNIVERSITY finds a circular slide rule for computing grade point averages very useful. It is accurate to three places and the fourth can easily be estimated.

The UNIVERSITY OF UTAH has adopted an 8½" x 11" permanent record sheet, looking forward to the installation of a photostatic process for duplication.

The MISSOURI SCHOOL OF MINES has installed Duophoto, which provides a photographic duplication in a speedy and economical fashion. Any type of duplicating matter can be reproduced in the actual size, black or white, from either transparent or opaque originals. It is especially good for making transcripts, grade reports, and copies of tables in small numbers. It is very suitable for small and medium size institutions.

The UNIVERSITY OF NEW MEXICO has installed a Dexigraph Photostat for making transcripts and advisers' copies of student records.

The UNIVERSITY OF OREGON is revising permanent record sheets and recopying approximately 25,000 records in order to utilize Dexigraph equipment.

The UNIVERSITY OF TEXAS reports the following improvements in the use of its mechanical devices: The Dexigraph has been purchased and the Photostat has been transferred from the library to a photographic duplication room which is under the direction of the Registrar. IBM equipment has been improved by replacing printing punches with other punches plus an interpreter, the latter doing the printing at a more rapid rate. A reproducer has also been added which performs the reproducing operation at the rate of 100 cards per minute as against about 10 cards per minute on the punches. The producer checks its own operation. This work is under the immediate supervision of Max Fichtenbaum, Assistant Registrar, and W. B. Shipp, Statistician.

FURMAN UNIVERSITY has established a faculty file which provides for each faculty member a large manila envelope in which are kept information sheets, photographs, newspaper clippings, publications, promotions, and similar personal data.

DARTMOUTH COLLEGE has discontinued the "cut" system which has been in use for twenty-five years, and which allowed the student a specified number of "cuts" based on the quality of his work in the previous semester.

Under the plan now in operation the college assumes that it is to the interest of the student to appear regularly at all of his scheduled college exercises and it is expected that every student will make a conscientious effort to do so.

It is the duty of the student to satisfy the instructor, upon request, regarding the propriety of any absence. In any event, the student must

assume full responsibility for work of the course which he may have missed. The bearing of work missed upon the grade in a course will in every instance be determined by the instructor.

Records of attendance are kept by each instructor and whenever in his judgment irregularity of attendance on the part of a student suggests the need of disciplinary action, he will report to the Dean. Absence for reasons unsatisfactory to the instructor which occur after such report shall constitute a basis for dismissal from the course for serious neglect.

In order to preserve the best interests of the college, students are required to be present at all their scheduled exercises on the day immediately preceding and the day immediately following a recess or vacation.

The SOUTH DAKOTA SCHOOL OF MINES uses a system for recording grades which has proved very satisfactory. The system applies particularly in a small institution with a relatively small number of courses but with changes could perhaps be adapted to somewhat larger operations.

The plan begins with the enrolment procedure in which two enrolment cards, an original and a carbon, are made for each student in each subject in which he is registered. Both sets are assembled by subject and section. The originals are available to the instructors at the first meeting of each class. The carbons are retained in the office and used to make up grade report sheets on which each instructor's students are listed alphabetically on a separate sheet for each class. These sheets have spaces provided after each name for two intrasemester grades and a semester grade. The sheets are prepared during the first six weeks of the semester. Just before the end of the six-weeks period each instructor's sheets are sorted out and put in his mail box. The grades are filled in and the sheets returned to the office by a specified time for recording the grades simultaneously on two sets of cards.

The cards in one of these sets are the students' original registration cards and the others a set of grade cards made up during the first six-weeks period. Both sets of cards have the four numbers 100, 200, 300, and 400 printed about an inch apart near the bottom. These numbers correspond to the group numbers of the subjects. All subjects normally taken by freshmen are numbered in the 100 group; those normally taken by sophomores are numbered in the 200 group, etc. The cards are prepared for recording the grades by punching out with a half circle punch those numbers which are not represented on the card by a subject in that group. Thus, the card of a regular freshman, who would be taking only 100 group subjects, would have the 200, 300, and 400 punched out. An irregular sophomore who would have largely 200 group subjects might have a freshman course numbered in the 100 group and be registered also in a subject in the 300 group. In this case only the 400 would be punched out leaving 100, 200, and 300, indicating that there was at least one subject in each of these groups on his card. The cards are left in their original alphabetical order and the grades recorded by going through the cards four times, recording first all 100 group grades, then all 200 group grades, etc.

This is done by arranging all 100 group grade sheets on a table before the registrar with two recorders, one for each of the sets of cards, on the opposite side. The 100's having been punched out of all cards on which subjects in this group are not to be found, the first card in the pile before the recorder on which there is a 100 showing is the first card on which a grade from this group must be recorded. All the

cards down to this one may be removed without referring to them. The name of the individual on this card is read by the recorder followed by the first course in the 100 group. The registrar then finds the sheet for this course and the individual's name and reads the grade which is then recorded on each of the two sets of cards. Grades for any additional 100 group courses on this card are recorded in like manner and the card removed from the pile and turned face down on the worked pile. The next card which carries a 100 group subject is then exposed as before and all cards in the pile before that can again be immediately transferred to the worked pile.

The same procedure is followed for recording 200, 300, and 400 group grades. Approximately 2,200 grades for four hundred students are normally recorded in about three hours.

The grade sheets are filed and used again for another intrasemester report at the end of twelve weeks and again at the end of the semester, after which they are filed as permanent records.

Registrar Harry E. Elder of the INDIANA STATE TEACHERS COLLEGE prepares for each member of the faculty a composite rating of the scholastic and personality standing for each student admitted. A chart of the characteristics considered and the methods for weighting can be obtained upon request.

The UNIVERSITY OF HOUSTON has purchased a photostat machine to expedite the work of the Registrar's Office.

REPORTED TO US

PRESIDENT Edith D. Cockins announces the Twenty-Seventh Annual Convention of the A.A.C.R., which will be held in New York City on April 25, 26, 27 and 28, 1939, at the Hotel Commodore. As usual Monday evening, April 24, will be used for the registration of delegates and an informal reception for delegates and visitors.

The Committee on Local Arrangements consists of the following:

Mr. E. J. Grant, Columbia University
Mr. H. G. Arnsdorf, New York University
Mr. Frank H. Hagemeyer, Teachers College, Columbia University
Mr. George H. Dwenger, Long Island Medical College
Mrs. Mary E. J. Lehn, Hunter College
Mr. Wilbur Kerr, Princeton University
Mr. Luther H. Martin, Rutgers University

The Convention will open formally on Tuesday morning, April 25, at 9:30. The tentative program includes the following speakers:

Dr. Walter A. Jessup, President of the Carnegie Foundation for the Advancement of Teaching
Chancellor Harry Woodburn Chase, New York University
Dr. Herbert H. Hawkes, Dean of Columbia College, Columbia University
Dr. William Rolland Angell, former President of Yale University and Chairman of the Education Board of the National Broadcasting Company
Dean Max McConn, New York University
Dr. Floyd Barrett O'Rear, Teachers College, Columbia University

The dinner speaker will be Dr. William Lyon Phelps of Yale University. Thursday morning will be devoted to the Open Forum. Thursday afternoon will be given over to a series of Professional Workshops with topics of importance to the Registrars. The Regional Meeting will be held on Thursday evening. The Business Session is assigned to Friday morning, with adjournment at noon. Wednesday afternoon is set aside for a Boat Trip around Manhattan Island. A theater party is scheduled for Wednesday evening. An effort is being made for a Preview of the World's Fair on Friday afternoon for delegates and visitors.

Vice-President E. J. Howell, in charge of membership, reports the following new members since July 1, 1938:

Sister M. Bertha, Registrar, St. Joseph College, Adrian, Michigan.

Mother Mathilde Curran, Registrar, Maryville College, 2900 Meramec Street, St. Louis, Missouri.

Mr. Selmer C. Larson, Registrar, Iowa State Teachers College, Cedar Falls, Iowa.

Mr. Thomas F. Maher, Assistant Registrar, School of Education, Fordham University, New York, N.Y.

Mr. Harry H. Provin, Registrar, University of Miami, Coral Gables, Florida.

Mr. G. N. Sisk, Registrar, State Teachers College, Livingston, Alabama.

Mr. W. H. Smith, Registrar, Copiah-Lincoln Junior College, Wesson, Mississippi.

Miss Gertrude C. Sturges, Registrar and Assistant Dean, Women's College University of Delaware, Newark, Delaware (a reinstatement).

Hartwick College, Oneonta, New York, has recently announced the gift of a business block in Schenectady and of residential property in Albany to establish the foundation for a professorship, and a cash grant for the establishment of a scholarship.

Wilson College is inaugurating a campaign to raise one million dollars to be known as The Seventieth Anniversary Fund.

On November 7 President J. Hillis Miller of Keuka College called a Council on the Education and Placement of Women in a Democracy. The Council is made up of outstanding women in various fields and professions. Dr. Lillian Gilbreth, consulting engineer, Mrs. Chase Going Woodhouse, director of the Institute of Women's Professional Relations, Dr. Edna Noble White of the Merrill-Palmer School, Dr. Esther Richards of Johns Hopkins University, and several others will make up the personnel. They will discuss the phases of women's professional standing and their rights in this country and abroad.

All four Nebraska State Teachers Colleges, Chadron, Kearney, Peru and Wayne, will change from a twelve- to a nine-week summer session beginning with the 1939 Summer School.

The office of the Registrar of St. Francis College, Brooklyn, New York, will be moved to a newly purchased building on Butler Street.

For the purpose of providing a more adequate organization for the effective administration of the admissions and records of students now con-

centrated in the Registrar's Office, the Office of Director of Admissions has been created at Purdue University. Due to the rapid increase in the student enrolment in the University during recent years, it has become necessary to provide much needed relief to the Registrar's Office as now organized. The Director will be considered administratively co-ordinate with the Registrar of the University and these offices will work in close co-operation. Clarence E. Dammon, who has been connected with the Department of Speech and the Purdue Radio Station, has been appointed Director of Admissions.

One of the newest departments at the University of Hawaii is the Oriental Institute. During the current year, the Institute has granted ten scholarships for graduate study in the social sciences, anthropology, and literature. Each of these scholarships amounts to one thousand dollars. The Institute is in charge of Professor Gregg M. Sinclair.

During the past year four nationality classrooms, Scottish, German, Swedish, and Russian Rooms, were formally presented and opened for use in the Cathedral of Learning at the University of Pittsburgh and the Anna Margaretta Heinz Memorial Chapel, the gift of the late Henry J. Heinz and his children, was dedicated.

Skidmore College announces that a model living room, newly decorated dining room, and modern foods laboratory have been made possible for the Home Economics Department through the endowment of $50,000 given by the late Susan D. Griffith last year for use in the Science Building toward the remodeling of which Miss Griffith had previously made a generous donation. This new improvement makes possible greater facilities for training teachers, dietitians, and home service workers.

The University of North Carolina has dedicated a new gymnasium and swimming pool. The gymnasium is in honor of Charles Thomas Woollen, and the swimming pool is in memory of Bowman Gray.

Rhode Island State College has dedicated the Eleanor Roosevelt Hall Women's Dormitory, Quinn Hall for Home Economics, Rodman Hall gymnasium and Meade Field for athletics. At the dedication ceremonies a campus clock was placed on Green Hall in honor of former Governor Theodore Francis Green.

During the past year Old College, the original building of Tennessee Wesleyan College, was remodeled and modernized. This reconstruction was made possible by the gifts of citizens of the town and county, and the Alumni.

South Dakota State College has established a two-year course in printing. Upon the completion of the two-year vocational course students can take three additional years of regular college work and receive the Bachelor of Science degree in Printing and Rural Journalism.

In October the Associate Alumnæ of New Jersey College for Women opened Woodlawn as its Alumnæ House. Woodlawn was the home of the late James Neilson, who bequeathed the property to Rutgers University with the request that it be used as the Alumnæ House of New Jersey College for Women.

Beta Theta Pi will hold its centennial celebration at Miami University next summer. A carillon, and campanile to house it, will be presented by the fraternity to the University.

A conference on "Guidance at the College Level" was held by the University of Omaha as a part of the dedicatory exercises when this Institution moved into an entirely new building at a new location.

The Pennsylvania State College recently dedicated eleven new buildings, which were erected by the Commonwealth.

Ohio University has organized a branch at Portsmouth. Courses are offered in general fields, commerce, and education. One hundred and seventy-four students enrolled during the first semester.

Dr. John R. Minahan has donated to St. Norbert College, West De Pere, Wisconsin, a 3,500 capacity stadium, which is built of steel and concrete.

Drew University will dedicate this spring a $600,000 Rose Memorial Library.

The University of Houston recently announced the gift of $350,000 from Mr. and Mrs. H. R. Cullen for the construction of a building in memory of their son, Roy Gustav Cullen.

The Board of Higher Education in Queens College has adopted a democratic organization, which gives power to the members of the departments to elect their chairmen and to have a voice in the determination of salary and promotion.

The Student Advisory and Guidance Service at the South Dakota School of Mines was reorganized this year with the appointment of L. R. Palmerton as Student Counselor. Mr. Palmerton has been a member of the English and Social Science Department faculty for several years, and during the last two summers has conducted a private student counseling and guidance

service for students in this area. This service will now be sponsored by the School of Mines during the school year.

At the October 20 meeting of the Executive Committee of the American Council on Education, President Zook reported that the following grants had been made to the Council by the General Education Board:

$4,500 for the use of the Teacher Education Commission for an exploratory study in the field of human growth and development.

$1,500 for the use of the Committee on Motion Pictures in Education in a study of recordings and transcriptions for general education.

$9,675 for the use of the American Youth Commission for a program of contacting various state legislatures which will be in session this coming winter and spring.

$8,700 for the use of the American Youth Commission for a study of youth-led organizations.

$2,500 for the use of the American Youth Commission for a radio program setting forth some of the findings of the studies of the Commission.

The Second Annual Conference of Principals and Advisers with their graduates in the freshman and sophomore classes of Lawrence College was held on the campus Saturday, December 3. The purpose of the conference was to assist the faculty and administration of the college to discover academic and social problems now being faced by members of the student body and to aid students in their adjustment to college work. Individual conferences were arranged between the high school principals and their graduates. Dean A. J. Brumbaugh, University of Chicago, addressed the group at luncheon and the afternoon was devoted to conferences between the secondary school officials and the college faculty and administrative staff.

Temple University will hold its Fifth Annual Career Conference for secondary school students on Saturday, March 18. This conference attracts more than 1,600 secondary students from four states. Aside from a general session at which some phase of the career problem is discussed, there are thirty-two group conferences in various professional and vocational fields which are presided over by selected leaders.

The Committee on Latin-American Studies and the University of Michigan are offering through the Institute of Latin-American Studies a program of courses, special lectures and round tables at the regular Summer Session of the University of Michigan (June 26 to August 18, 1939) in order to aid in the increase of our knowledge and understanding of the civilization of Latin America, with the sincere hope that this understanding will

contribute materially to a betterment of New World relations and aid the wider cause of world peace and progress.

Members of the Institute will be accepted on the same fee basis as other students. The Dean of the Horace H. Rackham School of Graduate Studies of the University of Michigan will grant to holders of the degree of Doctor of Philosophy or of Doctor of Science the privileges of the Institute and the opportunity to carry on research studies without fee, upon recommendation of the Director of the Institute. It will be necessary, however, for those who wish to avail themselves of this privilege to make formal application to the Director of the Institute before the opening of the Summer Session, so that satisfactory arrangements can be made in advance.

DURING the past year Dr. John Lincoln Roemer completed his twenty-fifth year as President of Lindenwood College, St. Charles, Missouri.

Mildred W. Cull has resigned as Registrar of Pembroke College. Esther H. Smith has been appointed Recorder for the college.

Eva R. Fitch has been appointed secretary to Registrar Donald R. Fitch of Denison University. Miss Fitch succeeds Marie Lien, who resigned to become an instructor in French and German in the University.

Dr. J. W. Jones, formerly Dean of the Faculty of the State Teachers College at Terre Haute, Indiana, has been appointed Dean of the Faculty at Northwest State Teachers College, Maryville, Missouri.

Mary Hale Crouch has been appointed Registrar of Wells College to succeed Florence Moore, who resigned last February.

Arthur F. Southwick, Registrar of the College of Wooster, has been granted leave of absence during the second semester of this year for graduate study at the University of California. Ralph A. Young has been appointed Director of Admissions, succeeding Gayle Lathrop.

Sarah Matthews, who during the past few years was in the Department of Education, has accepted a position in the Office of the Registrar of the Florida State College for Women.

Marthe Quinotte has been appointed Registrar, and Winifred Meade, Assistant Registrar of St. Joseph's College for Women, Brooklyn, New York.

Louis C. Guenther has been appointed Registrar of Howard College, Birmingham, Alabama, to succeed Professor Oscar S. Causey. Professor

Causey will have supervision of the Summer School and courses in the School.

Dr. Helen D. Bragdon, formerly Dean of the College for Women at the University of Rochester, has become Dean of Hood College at Frederick, Maryland.

Dr. Philip F. Ashton, formerly Registrar at Seattle Pacific College, has been appointed Vice-President of the College. Professor Burton Linton Beegle, head of the Department of Mathematics, has been appointed Registrar. Professor Beegle holds a Master of Science degree from the University of Washington, and is now beginning his eighteenth year at Seattle Pacific College.

Margaret Vanderzee, who was formerly in the Admissions Office at Mt. Holyoke College, has been appointed Registrar of Wilson College.

Rev. Hoyt Blackwell has been inaugurated as the fifteenth President of Mars Hill College to succeed Dr. R. L. Moore, who served as President of the College for forty-one years. Dr. Blackwell has been a member of the faculty for the past ten years.

Anna H. Isanogle, who for the past eighteen years has been Registrar of Western Maryland College, died last October 14. Martha E. Manahan, formerly Assistant Registrar, has been appointed Registrar. Cora Virginia Perry, who has been secretary to the Dean of the College and to the Registrar, has been named Assistant Registrar.

Howard A. Knag, Deputy Recorder for Queens College, Flushing, New York, has been named Recorder.

The Office of Registrar at the University of Wisconsin is celebrating its fiftieth anniversary. During this period there have been but three Registrars, William E. Hiestand (1888-1925), Frank O. Holt (1927-1936), and Curtis Merriman since 1936.

Robert G. Smith has been appointed Assistant to Registrar F. Taylor Jones of Drew University.

Susan K. Holleran has resigned as Registrar of Elmira College. She is succeeded by Eleanor L. Stevens.

Professor W. R. Woodmansee, who retired in June 1937 after twenty-two years of service as Registrar of Ripon College, died last August.

Registrar E. J. Mathews of the University of Texas reports the following changes in his area: A. A. Grusendorf has become Registrar of the Southwest Texas State Teachers College, San Marcos. The new Registrar

of the University of San Antonio at San Antonio, Texas, is H. S. Von Roeder. E. L. Harvin, formerly with Texarkana Junior College, has become Dean of the Corpus Christi Junior College, Corpus Christi, Texas. Grady St. Clair, until recently Registrar of Temple Junior College, Temple, Texas, is now Dean at Brownsville Junior College, and has been succeeded at Temple by C. Vernon. F. J. Agee, Registrar of the College of Mines and Metallurgy at El Paso, has a leave of absence to continue his graduate study at Yale University.

At the 102nd Commencement at Alfred University in June 1938, the honorary degree of Doctor of Science was conferred on Waldo A. Titsworth for thirty-three years of service as a teacher and administrator in that Institution.

Dr. Everett B. Sackett has been appointed Associate Registrar of the University of New Hampshire.

Donald M. Love, formerly Assistant Dean and Registrar of Oberlin College, has been appointed Secretary of the Institution, which post carries also the position of Secretary of the Board of Trustees. Edith Stanley succeeds Mr. Love as Registrar.

On December 3 Dr. John A. Elbert became President of the University of Dayton in the first formal inauguration since the founding of the Institution in 1850.

Jimmie Williams, Assistant Registrar at the State College of Washington, and Myrtle Burnham, Recorder of the Western Washington College of Education, spent three weeks during the past semester studying the procedure in various registrars' offices in California.

Dr. D. C. Agnew has been appointed Registrar of Coker College to succeed Leonora A. Dorsey, who will now give all of her time to teaching and to the office of Dean of Women.

Marguerite Hillhouse has been appointed Registrar at Mary Baldwin College. She is to succeed Martha S. Grafton, who is now Dean of Instruction.

Dr. Walter H. Beck has been appointed to succeed Wilfred F. Kruse as Registrar of Concordia Teachers College at Seward, Nebraska. Dr. Beck held the position of Registrar at Immanuel Lutheran College and Theological Seminary at Greensboro, North Carolina, from 1925 to 1937. He holds the A.M. from the University of Wisconsin; B.D., Wisconsin Lutheran Theological Seminary; S.T.M., Philadelphia Lutheran Seminary; Ed.D., Temple University.

Thomas J. Treadaway has been appointed Dean-Registrar of St. Mary's University at San Antonio, Texas, to succeed Fred J. Junker.

J. Orrin Anderson succeeds Naoma Rich as Registrar at Snow College, Ephraim, Utah.

Ellis M. Sowell, Registrar of Stephen F. Austin State Teachers College, has a leave of absence to continue study at the University of Texas.

Barbara Kruger has been appointed Dean of Women at Susquehanna University, Selinsgrove, Pennsylvania, and Dr. Russell Galt has been appointed Dean of the College.

John H. Denbigh has retired as President of the Packer Institute, New York. He is succeeded by Paul D. Shafer.

Professor M. A. Chase of the Department of Religion at Dakota Wesleyan University, has been appointed Registrar to succeed Letitia Hahn, who has been married.

Willia Huddleston has retired to take up work with the County Superintendent of Fayette county, after ten years of service as Registrar of New River State Teachers College, Montogomery, West Virginia. F. J. Pyle has been appointed to succeed her.

Winifred J. O'Connell has just been appointed Assistant to the Registrar at Adelphi College to succeed Ruth E. Keen, who has been appointed Director of the Service Bureau.

Norma Pearson, formerly Registrar of the State Teachers College at DeKalb, Illinois, joined the admissions office of the Graduate School of Business Administration of New York University in September.

Regional Meetings and Conferences

THE FIRST meeting of the *Arkansas Registrars* was held at the Little Rock Junior College on November 4. Ten registrars from institutions of higher learning in the State attended the meeting.

The following topics were considered in round-table discussion: "Status of Registrar," "Admissions," "Transfers," "Advanced Credit by Examination," "Office Methods," "Catalogue Numbering System," and "Personnel Records."

The following officers were elected for the coming year: President, Fred L. Kerr, Registrar, University of Arkansas; and Secretary, Mrs. Clarine Snow Longstreth, Registrar, Little Rock Junior College.

CLARINE S. LONGSTRETH

The first organized meeting of the *Conference of Chicago Registrars* was held Thursday, November 17, 1938, at DePaul University. There were forty registrars present.

Ernest C. Miller, Registrar of the University of Chicago, presided and introduced George R. Moon, Examiner and Recorder of the University of Illinois College of Medicine. Mr. Moon read a paper on "Mechanical Aids in Record Keeping." Samples of various types of records and mechanical devices were exhibited. There was a general discussion on the paper presented and on other questions presented in advance by the members of the Conference.

The meeting was followed by a dinner. The Conference meets three times a year at different universities and colleges in the Chicago area.

FRANCES MCELROY

The *Colorado-Wyoming Association of Collegiate Registrars* met at the University of Colorado on November 9. Thirty-four persons, representing fourteen institutions, attended the meeting.

Mr. R. M. Carson introduced representatives from the Association of Secondary School Principals of Colorado, who discussed the uniform testing program, transition from school to college and the rapid expansion of activity programs on college campuses, which are designed to attract secondary school students, and which so frequently place unwarranted responsibility upon secondary school teachers.

At the afternoon session Dorothy Gelhaus read a paper on "Guidance Information Secured from the Student and Uses Made of It." A very interesting discussion followed this paper on the nature and value of various personnel forms.

The final session of the meeting was organized in the nature of a forum, at which the general problems of the registrar were discussed.

The following officers were elected for the ensuing year: President, R. E. McWhinnie, University of Wyoming; Vice-President, Mrs. Norma K. Snyder, Assistant Registrar, University of Colorado; Secretary-Treasurer, M. Elisabeth Mann, Colorado Woman's College.

NORMA K. SNYDER

The annual meeting of the *Florida Association of Colleges and Universities* was held at Florida State College for Women, April 29 and 30.

The theme of the meeting was "The Responsibilities of the Florida Colleges in Teacher Education." Because of the fact that the State Department of Public Instruction has been working with the institutions of collegiate rank in the state in an effort to improve the certification requirements for teaching, the subject of the meeting was very appropriate. R. L. Eyman, the Dean of the College of Education at Florida State College for Women,

discussed "General Culture and Scholarship as Related to Teacher Education," stressing the fact that a teacher should first be a scholar. Dr. Edgar L. Morplut, from the State Department of Public Instruction, discussed the "Relationship of School Organization and Administration to a Program of Teacher Education." A panel discussion developed the subject of "The Responsibilities of the Florida Colleges in Teacher Education" under the following topics: "General Academic Education," "How Shall We Draw Our Best Talent Into the Teaching Profession," "Standards for Summer Session Training," and "Standards for Correspondence and Extension Programs." Dr. Garth H. Akridge, District Director of NYA, spoke on the NYA program in Florida. The State Testing Program was discussed and the lack of co-operation shown by the public schools was deplored.

The annual meeting of the *Illinois Association of Collegiate Registrars* was held at Knox College, Galesburg, Illinois, October 28 and 29, 1938.

Three interesting papers were presented the first day: "The Ideals and Expectations of the Association of College Representatives," by Edward W. Hale, of Beloit College; "Pre-College Guidance—Its Objectives and Program," Kenneth Lawyer, of Knox College; and "The Point of View of the Federation of Illinois Colleges," by Dr. Conrad Bergendoff, President of Augustana College.

At the banquet at which Knox College faculty were hosts, Dr. Carter Davidson, President of Knox College, gave a most stimulating address: "Evaluating the Liberal Arts College." He stressed the importance of the staff of the college considering the way to help students to lead better lives—(a) to make them better workers, regardless of the type of work they were doing; (b) to make them better members of any social group—home, state, church; and, (c) to make them better persons, more responsible, happier, respecting rights of others, etc. "Democracy can rest solely on American education," according to Dr. Davidson.

At the second session, Dr. John A. Bartky, President, Chicago Teachers College, discussed some of the problems which the teacher of a large metropolitan school system must face; and Dr. A. W. Clevenger, High School Visitor, University of Illinois, spoke on "The High School in Transition and Changes in the Educational Program of Significance to the Admission Officers of Institutions of Higher Education." In addition to these addresses a number of subjects were presented for group discussion.

The following officers were elected for 1939-40: President, Thomas Finkbeiner, North Central College, Naperville; Vice-President, Agness S. Kaufman, Lewis Institute, Chicago; Secretary-Treasurer, M. Frances McElroy, National College of Education, Evanston.

M. FRANCES MCELROY

The sixteenth annual meeting of the *Kansas Association of Collegiate Registrars and Advanced Standing Committees* was held at McPherson during the first semester.

The entire morning was devoted to a joint session with the Kansas Association of College Deans with Registrar A. H. King of Kansas Wesleyan University, Salina, Kansas, presiding. President Thomas W. Butcher of the Kansas State Teachers College of Emporia gave the main address of the morning, "More About the Curriculum."

Registrar A. H. King presided at the afternoon session at which the following topics were discussed: "How May We Know Freshmen Sufficiently Well in Order to Advise Wisely as to the Courses in Which They Should Enrol?" by C. F. Marshall, Baker University; "Are the Grades Given Students Today More Accurate or Less Accurate in Estimating the Achievement of Students than They Were Yesterday?" by Peter J. Wedel, Bethel College; "Is the Registrar's Office the Acadamic Clearing House of the College?" by F. T. Owen, College of Emporia; "Major vs. Field of Concentration," by Sister Ann Elizabeth, St. Mary College; "Most Colleges Now Have a Photograph of Each Student on File. Why Not Have Each Student Finger-Printed?" by S. V. Dalton, Fort Hays, Kansas; "Items of Interest from the Association of the National Registrars Meeting Held at New Orleans Last April," by Jessie McDowell Machir, Kansas State College; "May a Student, Having Made a Poor Grade, Repeat the Course and Attempt to Make a Better Grade?" by R. C. Hunt, Dodge City Junior College; "What Are the Necessary Characteristics of a Good Registrar?" by Beulah Pocock, Friends University; "What to Do in Issuing Duplicate Diplomas to Take the Place of Burned, Lost, Strayed, or Stolen Diplomas," by W. A. Fletcher, University of Wichita; "Are Entrance Requirements, Such as Examinations, General Intelligence Tests, Rank in Class, Rating Blanks, etc. Worth While?" by Joseph Staudinger, St. Benedict's College; and "Should Faculty Members Be Permitted to Enrol Freshmen?" by William J. Poundstone, Southwestern University.

The officers for the coming year are as follows: President, George O. Foster, University of Kansas, Lawrence, Kansas; Vice-President, Beulah Pocock, Friends University, Wichita, Kansas; Secretary, Sister Ann Elizabeth, St. Mary College, Leavenworth, Kansas; and Treasurer, Gladys Phinney, Washburn College, Topeka, Kansas.

SISTER ANN ELIZABETH

The annual meeting of the *Association of Kentucky Registrars* was held at the University of Kentucky, Saturday, October 29.

The Registrar of the University of Kentucky, Leo M. Chamberlain, presided. Outstanding on the program were two papers presented by Ezra L. Gillis and John V. McQuitty. Mr. Gillis discussed "The Evolution of the

Registrar's Office" and Mr. McQuitty read a paper on "Admissions and Examinations in the General College of the University of Florida."

A report on the New Orleans Meeting of the *American Association of Collegiate Registrars* was made by Miss Adelaide Gundlach, Registrar, Berea College.

The following were elected as officers for the coming year: President, H. M. Pyles, Registrar of Kentucky Wesleyan College; Vice-President, C. R. Wimmer, Dean of Union College, Barbourville; Secretary-Treasurer, Anne Poindexter, Registrar of Georgetown College, Georgetown.

LEO M. CHAMBERLAIN

The eighth meeting of the *Middle States Association of Collegiate Registrars* was held on Saturday, November 26, at Haddon Hall, Atlantic City, New Jersey. The President of the Association, George B. Curtis, Registrar of Lehigh University, was in the chair.

Projected changes in instruction in the Pennsylvania Secondary Schools were discussed in a paper presented by Paul L. Cressman of the Pennsylvania State Department of Public Instruction.

P. F. Banmiller, Registrar of Villanova College, opened a discussion of the uniform college admissions blank. Others who participated were E. K. Smiley, newly appointed Director of Admissions of Lehigh University, Millard E. Gladfelter, Registrar of Temple University, and Mr. Cressman.

"Tabulating Machines and University Statistics" was the subject of a paper given by William F. Hoffman, Registrar of Pennsylvania State College. Another method of preparing statistics was presented by R. H. Rivenburg, Dean of Bucknell University. H. W. Holter, Registrar, who was scheduled to speak on this subject, was unavoidably detained and Dean Rivenburg kindly agreed to take his place on the program.

The closing feature of the meeting was a paper given by Fred E. Nessell, Registrar of George Washington University, on "The Registrar's Office—Its Inception and Purpose." Mr. Nessell is chairman of the committee on Professional Interests, and his paper was the first of a projected series to be discussed at later meetings. The Committee, in a report submitted at the business meeting, suggested that later papers deal with the work of the office as it pertains to the admission of students, the process of registration and record keeping, transcripts, statistical studies, commencement programs, and the relationship of the registrar to other administrative officers, the faculty, students, and alumni.

The following were elected officers of the Association for the ensuing year: President, P. F. Banmiller, Villanova College; Vice-President, Millard E. Gladfelter, Temple University; Secretary-Treasurer, Irene M. Davis, The Johns Hopkins University.

IRENE M. DAVIS

The *Minnesota-Dakota Association of College Registrars* met at the University of Minnesota, November 4 and 5.

A group of 39 members and guests attended a six o'clock dinner in the Spanish Room of the Minnesota Union. Music was furnished during the dinner by two students from the College of St. Catherine.

After the dinner an informal discussion meeting was held with R. O. Wilson as leader. The discussion covered the following topics: "Evaluation and Acceptance of College Credits from Other Institutions," (a) Basis of Accepting Credits from Non-accredited Schools, (b) General College Transfers to Liberal Arts Colleges or Technical Schools, (c) Where Blanket Credit Is Given to Normal College Transfers—How Is the Credit Applied on a Program, (d) High School Teacher Training Schools, (e) Grade Distribution Studies from Other Colleges in the Evaluation of Transcripts; and "Entrance Requirements," (a) Methods of Making up Entrance Deficiencies.

The Saturday morning meeting was called to order by President D. B. Doner of the South Dakota State College with 49 members and guests present.

At this session "A Counseling Program for Small Colleges" was discussed by Brother Leo, Registrar, Saint Mary's College; and "New Registration Plan at the University of Minnesota," by T. E. Pettengill, Assistant Registrar, University of Minnesota.

On recommendation of the nominating committee, the Secretary was instructed to cast a ballot for the following officers for 1938-39: President, R. O. Wilson, University of North Dakota, Grand Forks, North Dakota; Vice-President, Alice Montgomery, Eastern State Normal School, Madison, South Dakota; and Secretary-Treasurer, T. E. Pettengill, University of Minnesota.

It was suggested that the Minnesota-Dakota Association of College Registrars find out if would be possible for the National Association to include the names and addresses of registrars of all institutions listed in the report on accreditment of institutions.

LEONA NELSON

The second annual meeting of the *Missouri Association of Collegiate Registrars* was held at the President Hotel in Kansas City on November 17. There were approximately thirty-five in attendance, representing fourteen institutions.

No formal papers were presented. The meeting was converted into a registrars' workshop in which three committees, each of which was presided over by a chairman, secretary, and discussion leader, discussed: Student Personnel and Guidance, Admission and Registration, and Recording.

The following officers were elected for the coming year: President, Dean Marston, Kemper Military Academy, Boonville, Missouri; and Secretary, Elma Poole, Registrar, St. Louis University, St. Louis, Missouri.

ELMA POOLE

The twelfth annual meeting of the *Nebraska Branch of the American Association of Collegiate Registrars* was held November 5, 1938, at the University of Omaha, Omaha. The President, P. V. Hansen, Registrar at Dana College, presided. Fifteen institutions were represented by twenty-seven registrars, assistants, and guests.

Zazel Sloniger of Nebraska Wesleyan University, who was our delegate to the Regional Association's Conference last spring, brought us a report on the National Convention. W. A. Rosene of the State Department of Public Instruction spoke on "Ramifications of the New Certification Law." This proved most helpful as many perplexing problems had arisen in regard to its enforcement. Archer D. Burnham, formerly President of the Scottsbluff Junior College, and now Secretary of the Nebraska State Teachers Association, presented a paper on "The Junior College."

Dr. Shepherd L. Witman, Associate Professor of Government, University of Omaha, addressed us on "Is Peace Assured in Europe?"

The following officers were elected for the coming year: President, L. F. Good, State Teachers College at Wayne; Vice-President, Anna J. Thompson, York College; Secretary-Treasurer, Miss Mabel Hays, University of Nebraska.

EDNA HEWIT

The fifteenth annual meeting of the *North Carolina Association of Collegiate Registrars* was held at the O. Henry Hotel, Greensboro, North Carolina, at 11:00 A.M., October 26, 1938.

The meeting was called to order by President Husbands, who presented Dr. Francis F. Bradshaw, Dean of Students, University of North Carolina, who spoke on "Additional Light on Educational Standards." Dr. Bradshaw gave a digest of the recent studies made in the states of Georgia, South Carolina, and Pennsylvania, and the substance of a report prepared for the North Carolina College Conference by the Committee on Admissions of which Dr. Bradshaw is a member. Dr. Bradshaw's address was interesting, instructive and stimulating. Upon its conclusion, the meeting resolved itself into an open forum for discussion of topics referred to in Dr. Bradshaw's address.

At the afternoon session the Nominating Committee gave its report which resulted in the following election of officers: President, H. J. Herring, Duke University, Durham, North Carolina; Vice-President, Mary Taylor Moore, Woman's College of the University of North Carolina, Chapel Hill, North Carolina; Secretary-Treasurer, Hazel Morrison, Flora Macdonald College, Red Springs, North Carolina.

A topic, "How Do Out-of-State Residents Attending North Carolina Colleges Compare in Scholastic Achievement with Within-state Residents Attending North Carolina Colleges?" was presented by W. L. Mayer, North Carolina State College of Agriculture and Engineering, University of North Carolina; Era Lasley, Guilford College; H. J. Herring, Duke

University, Ben Husbands, University of North Carolina; and F. W. Hengeveld, Davidson College. These five members reported findings in their respective institutions. In the absence of Mr. Hengeveld, President Husbands read his report.

An informal discussion of requirements for admission followed.

President Husbands announced that the American Association of Collegiate Registrars will hold its next meeting in New York City, April 25-28, 1939.

HAZEL MORRISON

The thirteenth annual meeting of the *Association of Ohio College Registrars* was held in Granville, November 3 and 4. The meeting was attended by fifty representatives from twenty-nine Ohio colleges.

Prominent on the program were the following discussions: "Problems of the Department of Education Affecting College Registrars," by Harold J. Bowers, Supervisor of Certification, State of Ohio Department of Education; "The Effect of the Emphasis upon the Master's Degree in the State Certification Requirements for Teachers on Ohio College Registrars," by Dr. Paul W. Stansbury, Director of Graduate Study, University of Toledo; "The Ohio School and College Co-operative Study of General Education," by Dr. Wilford M. Aikin, Chairman, Commission on the Relation of School and College, Progressive Education Association; "Some New Problems for Registrars," by W. C. Smyser, Registrar Miami University; and "A Résumé of Denison's Experience with the Testing Program Instituted This Last Year" by C. F. Richards, Dean of Men, Denison University.

Aside from these addresses, the panel discussions, and the annual banquet which was addressed by President Shaw of Denison, one of the highlights of the meeting was the inspiring address by Dr. Robert G. Bernreuter, Associate Professor of Psychology, The Pennsylvania State College, on the topic, "What Might the Registrar's Office Do about the Personality of Applicants for Admission?"

The following officers were elected for the coming year: President, Donald R. Fitch, Denison University; Vice-President, C. D. Perry, Bowling Green State University; Secretary-Treasurer, Lawrence C. Underwood, Hiram College; Ex-Officio, Hazel Geiner Petcoff, University of Toledo.

CARRIE E. MCKNIGHT

The thirteenth annual meeting of the *Pacific Coast Association of Collegiate Registrars* was held in Hollywood, California, November 13, 14, 15. The headquarters for the meeting were in the Knickerbocker Hotel, Hollywood.

The first official session was held Monday morning, November 14, at Pasadena Junior College. At this meeting Dr. John A. Sexton, Superintendent of Pasadena City Schools, outlined the purpose and aims of the Pasadena School System patterned after the Six-Four-Four Plan, and Dr. J. P. Mitchell, Registrar of Stanford University, presented a report of the

National Association's convention. After these addresses the visiting delegates, approximately ninety in number, were guests of the College at luncheon.

The afternoon session was held at Occidental College, and Dr. Robert G. Cleland, Vice-President and Dean of the Faculty of Occidental College, outlined the program followed there. The annual banquet was held in the evening in the Hollywood Knickerbocker Hotel. Professor Hugh C. Willett, Director of Admissions, University of Southern California, acted as toastmaster. An interesting address was given by the head of the research department of Warner Bros. Picture Corporation.

The Tuesday morning session was held at Los Angeles City College. The principal item of business at this session was a dramatized registration procedure presented by the Drama Department of the Los Angeles City College and Adam Diehl, Registrar. After this session the visitors were guests of the College at the Student Union Building.

The final session was held at the University of California at Los Angeles, and Dr. E. L. Lazier, Assistant Dean of the College of Letters and Science, discussed the problem of counseling in a large university.

The next meeting will be held in the San Francisco Bay District in 1939. Officers for the coming year are as follows: Secretary, Mary Jane Learnard, Assistant Registrar, San Francisco Junior College; Treasurer (Until June 1, 1939), Elizabeth A. Prior, Principal, Yakima Valley Junior College; Treasurer (After June 1, 1939), George E. Dotson, Registrar, San Diego State College.

EARL M. PALLETT

The eighteenth convention of the *Texas Association of Collegiate Registrars* was held in Austin, October 28 and 29.

Representatives from forty-six Texas colleges, several high schools, and the State Department of Education were in attendance. The following papers were presented: "The Administration of Academic Discipline in Texas Colleges and Universities," by H. S. Von Roeder, University of San Antonio; "What Next in College Education?" by E. H. Hereford, College Examiner; "A Study of Marks in Texas Junior Colleges," by J. R. McLemore, Paris Junior College; and "The Registrar in the Teaching Program," by Mrs. Grace Wellborn, Howard Payne College.

At the banquet session, E. J. Howell directed the opening exercises of *Add and Drop College*. The following officers were elected for the next year: President, Francis W. Emerson, Registrar, Texas State College for Women; Vice-President, Mrs. Grace Wellborn, Registrar, Howard Payne College; Secretary-Treasurer, Max Fichtenbaum, Assistant Registrar, The University of Texas.

MAX FICHTENBAUM

The *Utah Association of Collegiate Registrars* met at the University of Utah on October 14.

No formal papers were presented and the meeting was conducted in the form of a round table discussion. John E. Hayes, Registrar at Brigham Young University, gave a summary of the papers and meetings at the national convention.

CLARISSE H. HALL

The *Association of Wisconsin Registrars* met in Madison, at the Wisconsin Union, on the afternoon of October 14 and the morning of the fifteenth. Thorpe Langley, Registrar of Superior State Teachers College, presided.

The afternoon session was devoted to the following papers and reports: "Report on the National Convention of the American Association of Collegiate Registrars in New Orleans, April, 1938," by Curtis Merriman, Registrar, The University of Wisconsin; "Prediction of Freshman Success in College," by C. A. Smith, Chairman, Advanced Standing Committee, The University of Wisconsin; "Sophomore Courses for Superior Freshmen," by Clarence E. Deakins, Registrar, Lawrence College; and "Extension Courses Offered throughout the State by the University of Wisconsin," by Dean F. O. Holt, Extension Division of the University of Wisconsin.

The Saturday morning session was devoted to a round table discussion by the group from the state teachers colleges and the university and college group, with R. J. McMahon of Oshkosh Teachers College and Kärea Carlson of Carroll College acting as chairmen.

The following officers were elected for the coming year: President, John Kendrigen, Northland College; and Secretary, Gertrude O'Brien, Stout Institute.

LUCILE PETERS

The seventh educational conference of the *Educational Records Bureau* was held at the Hotel Roosevelt, New York City, on October 27 and 28. This Conference, which has earned the reputation of being one of the most significant educational gatherings in the East, proved to be of the same high caliber as its predecessors. Educators from all sections of the country were represented on the program and among the delegates.

The proceedings included such valuable discussions as "The Need for Comparable Measurements in Individualizing Education," by Ben D. Wood, of Columbia University; "Educating Teachers for Change," by Karl W. Bigelow, of the American Council on Education; "A Neurological Explanation of the Reading Disability," by Samuel T. Orton, M.D.; and "The Dartmouth Program for Diagnostic and Remedial Reading with Special Reference to Visual Factors," by Robert M. Bear, Assistant Professor of Psychology, Dartmouth College.

At one of the luncheon meetings, George D. Stoddard, Director of the Iowa Child Welfare Research Station, University of Iowa, presented an interesting report of a study in which the influence of environment on improving the I. Q. was strikingly illustrated. President H. W. Dodds, of

Princeton University, was the other luncheon speaker. His address on "The Problem of the Social Studies" was followed by a lively discussion in which interesting differences of opinion were aired.

At the Friday morning session, Francis T. Spaulding, Professor of Education at Harvard University, presented an illuminating report on the recent New York State survey of high school pupils. In his address on "Secondary Education and Social Competence," he reported such findings as the following: "The further pupils advance in the school, the less they are willing to take citizenship responsibility." "The school does not make adequate use of its opportunity to tie up pupils' leisure time activities with the work of the school. Developing of taste in movies, radio programs, and the like, is almost completely ignored by the schools." "The school fails to concern itself with what happens outside the school."

B. Lamar Johnson, Librarian and Dean of Instruction in Stephens College, speaking on "The Place of the Library in a Program of General Education," described how the Stephens College library functions as a service institution. He explained how, at a very reasonable per student cost, libraries are provided in residence halls, in classrooms, and wherever else they may serve a useful purpose.

The banquet address of President Nicholas Murray Butler was marked by sound wisdom and a statesmanlike attitude toward the problems that education is facing in a democracy. With sparkling humor, he cited incidents from his long experience as an educator to show that in effecting reforms patience is essential. He pled earnestly that civil liberty and personal freedom, upon which our past accomplishments had been built, be jealously guarded by the schools. FRANKLIN I. SHEEDER

The proceedings for the tenth annual meeting of the *South Carolina Collegiate Registrars* have been printed and can be procured from Miriam Holland, Secretary of the Association of the University of South Carolina.

The proceedings for the *Middle States Association of Collegiate Registrars* have also been published and can be procured from Irene Davis of Johns Hopkins University.

Three days, instead of two as in past years, will be devoted to the annual meeting of the *American Association of Junior Colleges,* which will be held at Grand Rapids, Michigan, March 2-4, 1939. One session will be devoted entirely to a consideration of semi-professional courses in the junior college; another to future junior college policies, with twelve past presidents of the Association participating; a third to problems peculiar to the publicly controlled junior colleges; and a fourth to characteristics of the privately controlled institutions.

BOOK REVIEWS

Psychological Foundations of Personality, Thorpe, Louis P., New York, McGraw-Hill, 1938.

To those who approve or disapprove of the trend toward "progressivism" or "holoism" in contemporary education, this book presents for the first time basic scientific material in a readable form.

The author is convinced that ". . . freedom from disintegrating conflict, as well as the essence of personality adjustment, are achieved through a balanced realization of the legitimate physiological, social, and psychological needs of the human organism." His conviction is supported not by philosophy and presupposition, as is often the case, but by logic and experimental evidence.

Primary Mental Abilities, Thurstone, L. L., Psychometric Monographs Number 1, Published for the Psychometric Society, University of Chicago Press, 1938.

As a progress report on the experimental work discussed by Mr. Thurstone in *The Vectors of Mind* (Chicago, University of Chicago Press, 1935) this monograph will be valued highly by any who recognize that the nature of intelligence is still an open and vitally important question. Acceptance of the concept of mental abilities rather than mental ability would completely upset most of our present-day educational theories and practices. Yet in this work, we have a major application of the theory of factor analysis resulting in a battery of tests which measure the following practically uncorrelated primary abilities which might be named: facility of spatial imagery, perception, number, verbal relations, memory, word fluency, inductive reasoning, restrictive tasks, and deductive reasoning.

W. P. SHOFSTALL

Adult Abilities, Sorenson, Herbert, Minneapolis, The University of Minnesota Press, 1938, p. xiii + 190.

A thorough analysis of the adult clientele of institutions providing "extension" courses, well substantiated by results of recognized tests of ability and capacity. The advantages and problems of instruction in extension courses are enumerated. The particular challenge to the instructor of such courses is well delineated. The reader is constantly impressed by the enlarging recognition of the "need of adults for continuous and sustained learning," and by the capacity of adults to increase their abilities through study.

FRED E. NESSELL

A Student Personnel Program for Higher Education, Lloyd-Jones, Esther McD., and Margaret Ruth Smith, New York, McGraw-Hill Company, 1938, p. viii + 322.

The first three chapters of the book, which comprise Part I, are given over to an examination of the relation of the student personnel program to higher education, and to a definition of the term "personnel." The program is seen as the response of higher education to its obligation to develop the total personality of each student, and not his mind only. Personnel work is defined in accordance with the charter of the American College Personnel Association as adopted by that body at its 1938 convention.

Part II, which includes chapters IV-XVIII, takes up one by one the various personnel services and makes an excellent presentation of the function of each, together with a painstaking outline of the best current objectives and practices and suggestions for developing an effective personnel set-up. Each chapter is followed by an exhaustive bibliography.

As a handbook for personnel officers and for administrators dealing with any phases of the personnel functions of the college this book is excellent. The authors do not lay themselves open to the charge of regarding personnel work as the panacea for all the ills of education, but have a sane and constructive view of the place it occupies in the total educational program. An eminently readable book.

W. C. SMYSER

The Future of the Liberal College, Foerster, Norman, New York, D. Appleton-Century Company, Inc., 1938, p. vii + 103.

A daring and dramatic analysis of the threat to liberal education. The background of the danger of extinction of the liberal college is portrayed, and the hope of salvation is clearly defined. A thoroughly comprehensive index adds to the enjoyment of the volume. A "four-star" work which should be read by every college and university staff.

FRED E. NESSELL

A History of American Education, Noble, Stuart G., New York, Farrar & Rinehart, Inc., 1938, p. vi + 440.

In line with a current trend, the author of this text considers the school in its social setting and in its relationships to other environmental influences. The book is a history of the education of a people in its broadest sense rather than a factual and chronological review of the development of the American school system. The approach is interpretative with less than the customary attention to dates and to individuals. Emphasis is on philosophy, curriculum and method, as opposed to organization and administration. The

book will be less appreciated by those who wish to know than by those who wish to understand.

Philanthropic Foundations and Higher Education, Hollis, Ernest Victor, New York, Morningside Heights, Columbia University Press, p. xiv + 365.

To what extent and in what direction has higher education in the United States been influenced by philanthropic foundations? Are such foundations committed to a philosophy of social and cultural values in keeping with the needs of a rapidly changing social order? These questions indicate broadly the purpose of this book. More specifically it reviews the historical development of the foundations, their policies and organization, their activities designed to stimulate higher education, and the geographical and institutional distribution of grants to colleges and universities. The approach is social rather than statistical; the literary quality much above the average for books of this type. The book is a timely and significant contribution to the literature on higher education.

LEO M. CHAMBERLAIN

RECOMMENDED FOR READING

"Youth Demands New Junior Colleges," Clyde M. Hill, *North Central Association Quarterly,* Vol. XIII, October 1938, p. 237.

The junior colleges are now more important than were the high schools in the 1880's and there is evidence that they will increase in number. Their growth in power for good will depend on the extent to which they avoid standardization and are flexible enough to fulfill their functions. In many cases junior colleges are only reproductions of the first two years in a four-year college. The author's plans for new types of junior colleges would be: 1) The admission of students who have exhausted local opportunities for secondary education; 2) a program both cultural and vocational; 3) opportunity for self-support for all needy students; 4) the guarantee of vocational placement on graduation with sufficient income to establish a home and family.

"Ghost Behind the Grade," Robert Greenlees, *Scribner's,* Vol. 103, No. 6, June 1938, p. 21.

At the rate of $1.50 per thousand words and fifty cents an hour for outside reference work, this ghost writer for high school and college students earns about $200 a year. This is only during spare time and is insignificant compared with the ghost writers on Eastern campuses who, he states, make $6,000 a year. Give these writers the topic, pay the required fee, and college work can be made relatively simple. Moreover, possibility of detection by the professors concerned is almost negligible in the opinion of the author after two years of experience in this manner of earning his school expenses.

"Nourishing Future Alumni," William Harold Cowley, *The Educational Record,* Vol. XIX, No. 4, October 1938, p. 483.

In recent years there has been evidence that institutions are making serious efforts to work out plans for closer relations with their alumni. This has resulted in such undertakings as alumni colleges, alumni reading lists, faculty-alumni forums, and alumni placement movements. Memberships in alumni associations, subscriptions to alumni magazines, and the size of alumni financial contributions reveal that there is room for still greater improvement in the relations of the schools to alumni and some specific instances are presented.

The best way to produce loyal alumni is to lay the foundation before graduation. In some schools prospective students are interviewed by alumni. In others alumni and students have joint programs, meetings and projects. Examples of plans followed at Minnesota, Wisconsin, Illinois, Dartmouth,

Ohio, Northwestern, Winchester, Stephens, and others are outlined. Laudable as all these activities may be they will not solve the situation until a better solution of the problem is found.

Five problems in the approach to a better understanding of school and alumni relations are given as: 1) The size of colleges and their effect upon student life; 2) diversified curriculums; 3) the social psychology of student life; 4) administrative practices of recruiting, orientation, academic discipline, and so forth; 5) the purposes of education, upon which the author dwells at some length and considers the most important. The attempt to bring back the personal touch in higher education through various personnel officers and faculty interest in the student offers the best solution to the problem.

"What Is Student Personnel Work?" J. E. Bathurst, *The Educational Record,* Vol. XIX, No. 4, October 1938, p. 502.

Registrars and other administrative officers whose duties include personnel work will be interested in this historical summary of the growth of the guidance program. Personnel work is a protest against the identification of education with formal class room instruction according to the author, who traces the steps that have been taken in liberalizing education. Over five hundred activities have been prepared which compose student personnel work. The author has grouped these into twenty areas which he considers the basis of procedure for applying evaluation techniques to student personnel activities.

"Purposeful 'College Days'," Lawrence W. Lange, *School and Society,* Vol. 48, No. 1240, October 1, 1938, p. 432.

Partly in self-defense and partly because high schools generally were not providing adequate college guidance, the "College Day" scheme was inaugurated by principals. On this day representatives from a large number of institutions are invited to the high school. After an address or two, the delegates from the colleges are assigned locations where they may meet interested high school students. "College Day programs as they are now organized are utterly useless." The reasons given are that the students are not prepared in advance by the high school to profit by the program; the information required is easily obtained in the school library; too many colleges are represented; there is no carry-over from year to year; and finally, the high school faculty generally does not participate and thus learns little or nothing from such meetings.

As a solution the author would have the colleges deal directly with the principals and the various advisers of the school. The conferences could be in the high schools with the teachers replacing the students. There could also be meetings arranged according to types of institutions. Another plan

could be in the form of orientation meetings on the campus for high school representatives from a convenient area.

Advantages of any of these plans over the present method would be that colleges would purvey facts rather than picture books and colored moving pictures of campus life; the information would be given to those in the secondary schools who can use it intelligently throughout the year; the high school will understand the college better; and finally, the student will receive the guidance he is seeking.

"Guidance of Graduate Students," Robert A. Davis, *Journal of Higher Education,* Vol. IX, No. 7, October 1938, p. 365.

The increase in the number of graduate students in the summer sessions as well as during the regular term has taxed facilities and has brought about modification in administrative and instructional organizations and policy. Many schools have reduced the requirements in various ways as the increasing amount of guidance necessary was more than the schools could provide. The author outlines a plan followed at the University of Colorado whereby information of general value to all graduate students is presented to groups, thereby eliminating many individual conferences. All students take three courses: Methods of Educational Research, Thesis Problems, and Mechanics of Thesis Writing. Only the first half of the first course carries credit. A general outline of these three courses is presented. Final appraisal of the student's proficiency is based on his scholarship record, the thesis, and a comprehensive written examination. The writer feels that the group method of guidance has been successful and has improved the quality of guidance as well as of instruction.

"High-School Latin and College Grades," Fred L. Hadsel, *School and Society,* Vol. 48, No. 1245, November 1938, p. 602.

"In the rapidly accumulating wealth of investigations concerned with the relation between the pattern of subjects taken in high school and subsequent college marks, it is commonly found that, if there is any field of study in high school the pursuance of which tends more than any other study to contribute to better grades in college, that field is Latin."

Using this quotation from a study presented in *School Review* in November, 1937, the writer carried on an investigation along the same line and presents data substantiating the findings given in the previous study.

"Selective References on Guidance," Percival W. Hutson, *The School Review,* Vol. XLVI, No. 7, September 1938, p. 538.

This article consists of a list of references that have been selected as being most helpful to personnel workers in educational institutions.

"Evaluation of Higher Institutions of Learning," J. B. Sears, *Educational Administration and Supervision,* Vol. XXIV, No. 7, October 1938, p. 509.

The Commission on Institutions of Higher Education of the North Central Association has submitted a report on the accreditation of institutions. The author reviews each of the seven volumes that cover in order the following questions: Principle of Accrediting Higher Institutions; The Faculty; The Educational Program; The Library; Student Personnel Service; Administration and Finance.

"Trends in College Admission Requirements;" Harold A. Ferguson, *School and Society,* Vol. 48, No. 1239, September 1938, p. 407.

During the last ten years a marked tendency has grown among colleges toward the collection of many types of evidence as to the ability of individual applicants, with the result that secondary schools which can employ good teachers now find themselves in the position where the highest third or fourth of their graduates can meet the entrance requirements of any college.

Some of the significant changes are: 1) an increased emphasis upon the general school record with less tendency to emphasize examination results as well as marks in specific subjects; 2) a growing tendency to interpret the Carnegie Unit more liberally; 3) an increase in the use of the privilege of certification in the place of examination; 4) a greater inclination on the part of the college to judge each applicant on his merits; 5) a definite plan to secure as wide a geographical distribution as possible in the entering classes of some colleges; 6) the effect of the progressive education experiment upon the attitude of college; 7) the reduction in the emphasis upon all foreign languages as an admission requirement (only two colleges still require Latin or Greek for admission); 8) a shifting of emphasis in requirements to the last three years of high school; 9) a marked growth in the use of aptitude tests; 10) a marked increase in the varieties of admission procedures observed within the same colleges; 11) greater emphasis upon comprehensive examinations or upon a sampling of a pupil's high school preparation in colleges requiring entrance examinations in place of an examination in every subject; 12) a greater tendency in the Middle and Far West toward freedom in the choice of electives in college admission (one school, for example, sets forth English as the only required subject); 13) a greater emphasis upon marks, certifying standards, and the rank of the pupil in his class because of the increasing competition for admission to certain colleges; 14) increased attention given to personal qualities; 15) a marked tendency noticeable among some colleges to attempt to meet the financial need of able students; 16) the rise of junior

colleges; 17) the growing tendency among some institutions to encourage personal interviews.

In general the tendency is to secure personal knowledge of a prospective student and information about his past achievements, the collection of many types of evidence as to the ability of the applicant to undertake college work and a willingness to rely somewhat more on secondary school records, standards, and recommendations.

"Guiding the Teacher," W. P. Shofstall, *Journal of Higher Education,* Vol. IX, No. 9, November 1938, p. 429.

A major problem of colleges is to obtain scholarly teachers who are interested primarily in students. Stephens College seeks to employ only open-minded persons with sound academic preparation and then supplies them in service the training they did not, or perhaps could not, receive in graduate school. As a result, each member of the faculty is an adviser for ten students. Two weeks before the opening of school the faculty is assembled for instruction and discussion of the duties involved in the plan. The article outlines in detail the procedure of the Stephens College Plan. It is added that it supplements the regularly established guidance set-up with its clinic testing bureaus and guidance personnel. Mention is made of an advisers' handbook prepared by the Stephens College faculty. The author believes the system of guidance and counseling is at least equal in effectiveness to other plans, with the added value of having a vital force toward the improvement of classroom instruction.

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FEBRUARY	9, 1939	Oklahoma Association of Collegiate Registrars, Tulsa
FEBRUARY	10-11, 1939	Association of Virginia Colleges, Richmond
FEBRUARY	21-25, 1939	American Council of Guidance and Personnel Associations, Cleveland
FEBRUARY	21-25, 1939	National Association of Deans of Women, Cleveland
FEBRUARY	21-25, 1939	American College Personnel Association, Cleveland
FEBRUARY 25-MARCH	4, 1939	National Education Association, Cleveland
MARCH	1, 1939	Vocational Placement Conference, University of Southern California, Los Angeles
MARCH	27-31, 1939	Southern Association of Colleges and Secondary Schools, Memphis, Tennessee.
MARCH 29-APRIL	1, 1939	North Central Association of Colleges and Secondary Schools, Chicago
APRIL	14, 1939	Pan-American Day Program, University of Southern California, Los Angeles

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